

CAUSES OF DEATH.

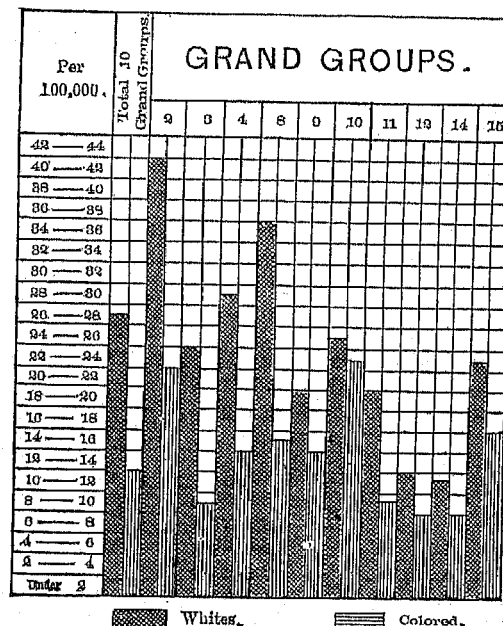
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The comparatively slight tendency of the colored race to cancer is shown in the following table and diagram, in which the distinction of sex is omitted. This shows that, of a population of nearly 29,000,000, or over half the entire population of the United States, including in it over 6,000,000 of colored persons, the aggregate number of deaths from cancer among the whites was 6,321, and among the colored 790, giving a proportion per 100,000 of living population of 27.96 for the whites and 12.67 for the colored; that is, that cancer is more than twice as prevalent among the whites as it is among the colored in the same localities:

TABLE 126.—SHOWING IN CERTAIN GRAND GROUPS THE NUMBER OF DEATHS FROM CANCER, WITH DISTINCTION OF WHITE AND COLORED, IN 100,000 OF LIVING POPULATION.

Grand Groups.	POPULATION.		DEATHS FROM CANCER.		PER 100,000 OF LIVING POPULATION.	
	White.	Colored.	White.	Colored.	White.	Colored.
Total	22,599,253	6,233,115	6,321	790	27.96	12.67
2. Middle Atlantic Coast region	3,857,503	518,032	1,023	116	42.07	22.36
3. South Atlantic Coast region	389,497	485,589	94	45	24.13	9.26
4. Gulf Coast region	607,830	448,105	181	67	29.77	14.94
8. The Interior Plateau	4,990,587	724,006	1,819	112	36.44	15.48
9. Southern Central Appalachian region	2,204,420	433,538	471	62	20.80	14.30
10. The Ohio River Belt	2,301,912	138,427	580	32	25.10	23.11
11. Southern Interior Plateau	1,653,096	1,972,440	332	196	20.08	9.93
12. South Mississippi River Belt	250,306	459,854	32	40	12.77	8.69
14. Southwest Central region	2,291,842	640,834	264	58	11.51	8.27
15. Central region, plains and prairies	3,992,161	411,501	925	67	23.17	16.28

FIG. 98.—DEATHS FROM CANCER IN 100,000 OF LIVING POPULATION, WITH DISTINCTION OF WHITE AND COLORED, IN CERTAIN GRAND GROUPS.



In must not be forgotten, however, in this connection, as in all cases when we attempt to compare the data relating to deaths among the whites with those relating to the colored population, that the reports of deaths among the colored population are more incomplete and more incorrect than those for the whites, and that the proportion of persons living at advanced ages, who are most liable to cancer, is less in the colored than in the whites, and therefore that the difference between the races may not be quite as great as these figures would seem to indicate.

The following table shows for the whole United States, and for those of Irish and German parentage in certain grand groups, and of white and colored in other grand groups, the number of deaths from cancer per 1000 of all deaths from known causes:

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TABLE 127.—SHOWING FOR RURAL AND CITIES, WITH DISTINCTION OF SEX, AND FOR WHITE AND COLORED, IRISH AND GERMAN PARENTAGE, THE PROPORTION OF DEATHS FROM CANCER IN 1000 DEATHS FROM KNOWN CAUSES.

Grand Groups.	RURAL.		CITIES.		White.	Colored.	Irish parentage.	German parentage.
	Male.	Female.	Male.	Female.				
Total	13.20	22.60	12.70	26.70	19.1	7.8	24.3	25.8
1. North Atlantic Coast region	22.35	40.49	13.41	31.51	.....	.....	22.6	40.0
2. Middle Atlantic Coast region	15.75	25.74	12.63	27.23	21.2	7.7	21.3	30.0
3. South Atlantic Coast region	6.51	15.37	3.58	7.83	17.1	5.8	.....	.....
4. Gulf Coast region	7.48	16.72	14.51	34.80	20.7	10.0	.....	.....
5. Northeastern Hills and Plateaus	25.22	41.24	11.73	24.33	.....	.....	23.1	20.6
6. Central Appalachian region	15.63	20.21	4.95	33.05	.....	.....	24.6	21.5
7. Region of the Great Northern Lakes	18.90	31.54	13.47	21.00	.....	.....	20.5	22.0
8. The Interior Plateau	18.42	30.55	12.13	27.20	25.2	8.8	33.3	32.0
9. Southern Central Appalachian region	10.40	22.38	.....	.....	19.0	8.2	.....	.....
10. The Ohio River Belt	13.91	22.05	11.47	24.96	18.4	10.7	25.0	24.1
11. Southern Interior Plateau	6.91	15.04	.....	.....	16.8	7.4	.....	.....
12. South Mississippi River Belt	2.70	11.43	.....	.....	6.7	6.6	.....	.....
13. North Mississippi River Belt	13.90	19.32	10.44	25.01	.....	.....	33.1	21.1
14. Southwest Central region	5.15	9.89	.....	.....	7.6	6.3	.....	.....
15. Central region, plains and prairies	12.65	20.00	8.27	14.97	17.6	8.6	.....	.....
16. The Prairie region	12.97	16.95	.....	.....	.....	.....	20.6	23.2
17. Missouri River Belt	8.26	13.39	2.82	14.71	.....	.....	12.7	11.4
18. Region of the Western Plains	2.05	5.79	3.47	11.05	.....	.....	.....	.....
19. Heavily-timbered region of the Northwest	20.10	25.74	.....	.....	.....	.....	30.4	21.1
20. Cordilleran region	7.97	11.87	.....	.....	.....	.....	12.6	24.7
21. Pacific Coast region	10.44	18.12	24.11	40.10	.....	.....	34.3	43.3

It would seem from this that cancer causes a greater proportion of deaths among those of Irish and German parentage than it does among the average white population; but it must be remembered that the number of adults, who are most liable to cancer, is proportionately greater among the Irish and Germans than among the native whites, and also that the greater part of our foreign population is in the northern part of the country, where the tendency to this disease seems greater than in the South.

The data of the census are not complete or accurate enough to decide as to the relative frequency of cancer in persons of Irish or German descent as compared with each other or with the native whites of this country; but the figures of table 124, given above, indicate that between the ages of 15 and 65 the Germans are more liable to cancer than the Irish, and decidedly more so than the average white population.

The difficulty in estimating the relations between race and any particular cause of death, if we use only the data indicating place of birth, will appear from a comparison of table 124 (table by groups of ages *ante*) with the following table:

TABLE 128.—SHOWING FOR NATIVE-BORN AND THOSE BORN IN CERTAIN FOREIGN COUNTRIES THE TOTAL POPULATION, THE DEATHS FROM CANCER, AND THE PROPORTION OF DEATHS FROM CANCER PER 100,000 OF LIVING POPULATION.

Nativity.	Population.	Deaths from cancer.	Per 100,000 of living population.
The United States	43,475,840	8,730	20.08
Ireland	1,854,571	1,309	70.58
Germany	1,966,742	1,245	63.30
Great Britain	917,598	479	52.20
British America	717,157	167	23.28
Scandinavia	370,066	103	27.38
Other foreign countries	847,809	258	30.43
Total foreign-born population.	6,679,943	3,561	53.30

According to this table, the proportion of deaths from cancer among our foreign-born population is more than double that among the native-born, this result being due to the fact that the great majority of children of foreign parentage are born in this country, and that cancer is comparatively rare among children.

Tables XLII to XLVI (pp. 579-623 of this volume) show the deaths from cancer in various organs and localities of the body, with distinction of age, sex, and nativity, and of color for certain grand groups. In studying these tables it should be constantly borne in mind that the distinctions are given by nativities and not by race, as has been done for all other diseases. I have preferred to tabulate the deaths from cancer by the birthplace of the decedents, rather than by their parentage; because, cancer being chiefly a disease of adult life and old age, errors due to the peculiar age distribution of the foreign-born population are less for this disease than for most others, and

because it was specially desirable to compare the number of deaths with the number of the living population, which could only be done with any attempt at race distinctions by following the classification made in the tabulation of the living population.

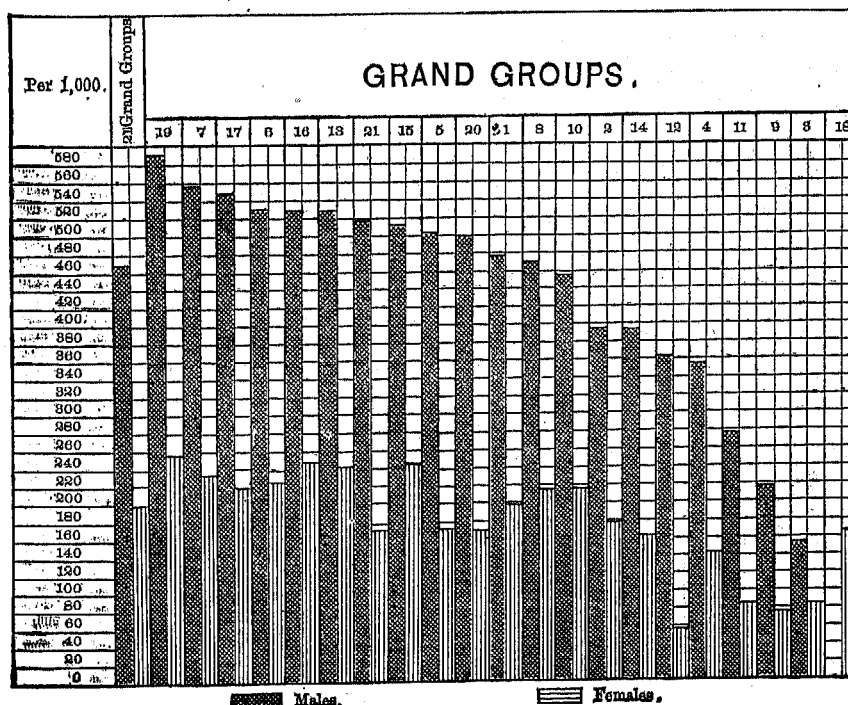
From these tables have been computed Tables XLVII to L, inclusive, showing the proportion of deaths from cancer of certain organs, viz: the stomach, the liver, the breast, and the uterus, with distinctions of sex, age, color, and nativity, for certain grand groups in which the proportions were large enough to make it worth while to make the calculations.

The following is a summary of these tables, so far as relates to cancer of the stomach, liver, breast, and uterus:

TABLE 129.—SHOWING FOR GRAND GROUPS THE PROPORTION OF DEATHS FROM CANCER OF THE STOMACH, OF THE LIVER, OF THE BREAST, AND OF THE UTERUS PER 1000 DEATHS FROM CANCER OF WHICH THE SEAT IS KNOWN.

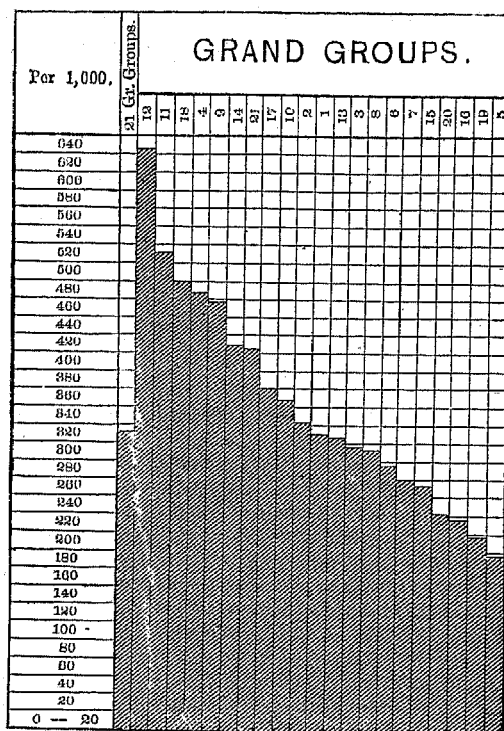
Grand Groups.	IN 1000 DEATHS FROM CANCER OF WHICH THE SEAT IS KNOWN.									
	Deaths from cancer of the stomach.			Deaths from cancer of the liver.			Deaths from cancer of the breast.			Deaths from cancer of the uterus.
	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Females.
Total.....	800.18	409.71	199.68	71.77	100.96	54.47	151.07	17.26	230.39	331.88
1. North Atlantic Coast region	803.43	478.42	199.57	120.05	166.66	92.43	138.52	10.63	214.28	329.83
2. Middle Atlantic Coast region	240.83	892.92	175.27	112.90	140.81	94.22	145.72	13.75	213.77	341.43
3. South Atlantic Coast region	95.89	153.84	83.33	.....	.....	.....	205.47	76.92	238.33	316.06
4. Gulf Coast region	218.90	357.14	145.03	79.00	142.85	45.80	114.42	42.85	152.07	488.55
5. Northeastern Hills and Plateaus	386.03	502.53	306.89	67.76	86.29	55.17	139.63	.....	294.82	193.10
6. Central Appalachian region	845.38	530.92	226.97	72.28	97.93	55.92	146.58	15.46	230.26	292.76
7. Region of the Great Northern Lakes	368.58	550.70	232.00	74.65	85.82	60.36	152.41	11.19	253.83	280.00
8. The Interior Plateau	302.64	470.96	211.62	61.88	92.47	45.34	171.32	23.65	251.16	315.11
9. Southern Central Appalachian region	112.32	218.75	74.34	10.17	52.08	7.43	183.56	20.83	241.63	479.55
10. The Ohio River Belt	306.30	455.62	214.54	56.30	88.75	36.30	139.63	.....	225.45	307.26
11. Southern Interior Plateau	134.80	277.10	89.14	20.52	48.19	11.62	167.15	36.14	209.80	531.00
12. South Mississippi River Belt	125.00	363.63	54.05	20.83	90.90	.....	187.50	90.90	210.28	648.04
13. North Mississippi River Belt	369.86	527.95	245.09	76.71	105.59	53.92	109.58	12.42	186.27	328.43
14. Southwest Central region	195.97	300.62	103.70	40.20	78.12	22.22	135.07	31.25	185.18	429.62
15. Central region, plains and prairies	342.80	509.80	240.00	41.00	50.98	36.19	157.81	15.68	239.81	271.49
16. The Prairie region	380.74	520.05	240.32	67.52	94.80	43.36	158.04	80.53	271.00	235.77
17. Missouri River Belt	345.67	548.38	220.00	12.34	.....	20.00	135.80	.....	220.00	380.00
18. Region of the Western Plains	76.92	.....	106.06	.....	.....	.....	230.76	142.85	333.33	500.00
19. Heavily-timbered region of the Northwest	309.03	500.00	258.33	48.07	34.09	58.33	144.23	11.36	241.60	216.66
20. Cordilleran region	353.84	500.00	172.41	30.76	27.77	34.48	153.84	55.55	275.80	241.37
21. Pacific Coast region	348.81	516.47	172.41	106.74	164.83	45.97	184.83	.....	275.86	425.28

FIG. 99.—DEATHS FROM CANCER OF THE STOMACH IN 21 GRAND GROUPS, WITH DISTINCTION OF SEX, PER 1000 DEATHS FROM CANCER OF WHICH THE SEAT IS KNOWN.



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FIG. 100.—DEATHS FROM CANCER OF THE UTERUS IN 21 GRAND GROUPS, PER 1000 DEATHS AMONG FEMALES FROM CANCER OF WHICH THE SEAT IS KNOWN.

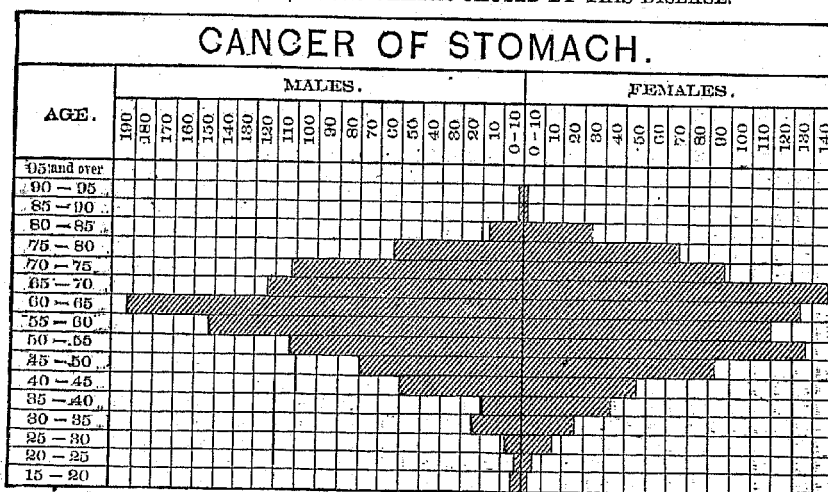


From table 129 it appears that in each 1000 deaths from cancer of which the seat is known there were 331.88 deaths from cancer of the uterus, 300.18 from cancer of the stomach, 151.07 from cancer of the breast, and 71.77 from cancer of the liver. The proportions given in 9,118 cases of cancer occurring in Paris, and tabulated by M. Tanchou, (a) were, per 1000 of the deaths from cancer, for the uterus, 328.58; stomach, 252.58; breast, 217.26; and liver, 63.391.

These proportions, however, whether from the French data or from those of the census, can be considered only as general approximations, owing to the want of accuracy of the returns, and more especially to the fact that it is impossible to determine whether the organs to the cancer of which death is attributed were affected primarily or secondarily.

The following diagrams indicate the relations of age distribution in the deaths reported as due to cancer of the stomach, with distinction of sex and of nativity, and to cancer of the uterus with distinction of color and nativity (see Tables XLVII and L). The peculiarities in the diagrams indicate that the number of facts was not sufficient to obtain a fair average, or that there are some great defects and errors in the reports. Nevertheless they will serve to suggest some inquiries which it may be possible to answer by more accurate statistics:

FIG. 101.—DEATHS FROM CANCER OF THE STOMACH AMONG WHITES, AT CERTAIN GROUPS OF AGES, IN 1000 DEATHS CAUSED BY THIS DISEASE.



a TANCHOU: *Recherches sur la fréquence du cancer*, in *Gazette des Hôpitaux*, Paris, 6 Juillet, 1843, p. 313.

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FIG. 105.—DEATHS FROM CANCER OF THE UTERUS AMONG FEMALES BORN IN IRELAND AND GERMANY, AT CERTAIN GROUPS OF AGES, IN 1000 DEATHS CAUSED BY THIS DISEASE.

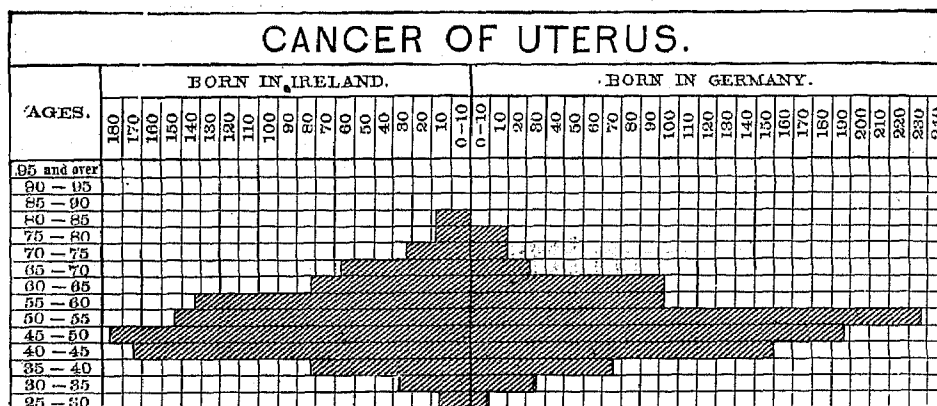
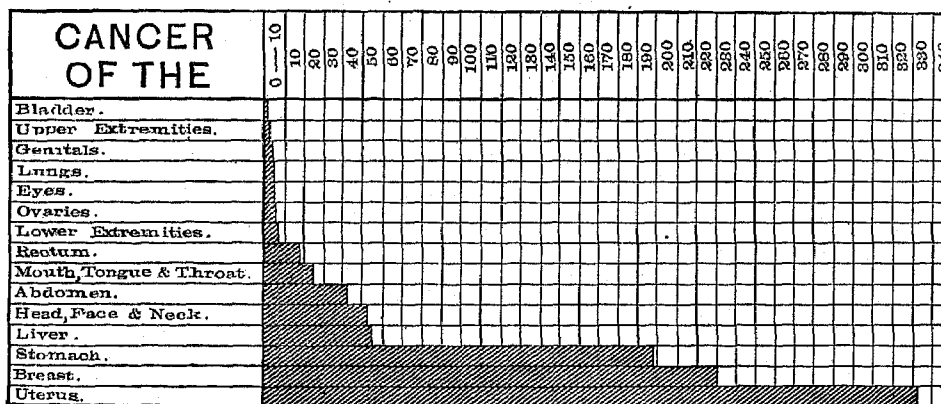


TABLE 130.—SHOWING THE NUMBER OF DEATHS FROM CANCER IN DIFFERENT ORGANS OR REGIONS OF THE BODY, AND THE RATIOS OF THE NUMBER OF DEATHS FROM CANCER OF A PARTICULAR ORGAN OR REGION TO THE WHOLE NUMBER OF DEATHS FROM CANCER OF WHICH THE ANATOMICAL SEAT IS STATED.

Diseases.	DEATHS FROM CANCER.							PER 1000 DEATHS FROM CANCER OF WHICH THE SEAT IS KNOWN.						
	Total.			Cities.		Rural.		Total.			Cities.		Rural.	
	Total.	Male.	Female.	Male.	Female.	Male.	Female.	Total.	Male.	Female.	Male.	Female.	Male.	Female.
Deaths from cancer.....	13, 068	4, 875	8, 193	1, 079	2, 050	3, 796	6, 143	.....	.....	.....	.....	.....	.....	.....
Deaths from cancer, seat not stated.....	3, 887	1, 458	2, 429	209	312	1, 240	2, 117	.....	.....	.....	.....	.....	.....	.....
Deaths from cancer of known seat.....	9, 181	3, 417	5, 764	870	1, 738	2, 547	4, 026	.....	.....	.....	.....	.....	.....	.....
Cancer of—														
Stomach.....	2, 756	1, 005	1, 151	373	285	1, 232	860	300.1	460.7	199.6	428.7	163.9	483.7	215.1
Uterus.....	1, 913	.....	1, 913	.....	676	.....	1, 237	203.3	.....	331.8	.....	388.0	.....	307.2
Breast.....	1, 887	59	1, 328	13	329	46	999	151.0	17.2	230.3	14.9	189.2	18.0	248.1
Liver.....	659	345	314	141	152	204	162	7	160.9	54.4	162.0	87.4	80.0	40.2
Head, face, and neck.....	914	008	306	86	51	522	255	99.5	177.9	53.0	98.8	29.3	204.9	63.3
Abdomen.....	438	247	241	63	81	184	100	53.1	72.2	41.8	72.4	46.6	72.2	39.7
Mouth, tongue, and throat.....	332	184	148	00	23	124	125	36.1	53.8	25.6	68.9	13.2	48.6	31.0
Rectum.....	204	94	110	37	55	57	55	22.2	27.5	19.0	42.5	31.6	22.3	13.6
Lower extremities.....	85	38	47	13	12	25	35	9.2	11.1	8.1	14.9	6.9	9.8	8.6
Upper extremities.....	50	28	22	5	5	23	17	5.4	8.1	3.8	5.7	2.8	0.0	4.2
Eye.....	64	37	27	9	6	23	21	6.9	10.8	4.6	10.3	3.4	10.9	5.2
Lungs.....	50	23	27	5	11	18	16	5.4	6.7	4.6	5.7	6.3	7.0	3.9
Bladder.....	49	32	17	11	9	21	8	5.3	9.3	2.9	12.6	5.1	8.2	1.9
Genitals.....	37	13	24	4	4	9	20	4.0	3.8	4.1	4.5	2.3	3.5	4.9
Ovaries.....	30	.....	30	.....	16	.....	14	3.2	.....	5.2	.....	9.2	.....	3.4
Penis.....	19	19	.....	9	.....	10	.....	2.0	5.5	.....	10.3	.....	3.0	.....
Testicle.....	14	14	.....	4	.....	10	.....	1.5	4.0	.....	4.5	.....	3.9	.....
Larynx.....	17	12	5	9	1	3	4	1.8	3.5	0.8	10.3	0.5	1.1	0.9
Brain.....	10	6	4	1	1	5	8	1.0	1.7	0.6	1.1	0.5	1.9	0.7
Other localities.....	103	53	50	27	21	26	20	11.2	15.5	8.6	31.0	12.0	10.2	7.2

FIG. 106.—DEATHS AMONG FEMALES FROM CANCER OF SPECIFIC ORGANS IN 1000 DEATHS
AMONG FEMALES FROM CANCER OF KNOWN SEAT.



The following table shows for certain grand groups, the relations of cancer of individual organs to color, with distinction of sex; and from this table have been constructed figs. 107 and 108, showing, for the same grand groups, the proportions of deaths from cancer of the uterus and of the stomach in 1,000,000 of living population: (a)

TABLE 131.—SHOWING FOR CERTAIN GRAND GROUPS, WITH DISTINCTION OF COLOR AND SEX, THE NUMBER OF DEATHS FROM CANCER OF THE STOMACH, OF THE LIVER, OF THE BREAST, AND OF THE UTERUS IN 1,000,000 OF LIVING POPULATION.

Grand Groups.	DEATHS FROM CANCER OF THE STOMACH.				DEATHS FROM CANCER OF THE LIVER.				DEATHS FROM CANCER OF THE BREAST.				DEATHS FROM CANCER OF THE UTERUS.	
	White.		Colored.		White.		Colored.		White.		Colored.		White.	Colored.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.		
Total.....	60.48	50.09	13.00	13.30	14.37	14.05	2.60	2.53	2.11	59.77	3.25	34.21	91.04	74.44
2. Middle Atlantic Coast region.....	100.04	83.24	30.80	37.80	30.40	44.03	8.98	18.09	2.63	99.07	7.90	63.57	150.84	89.75
3. South Atlantic Coast region.....	10.82	20.42	.....	4.02	.....	.....	.....	.....	.....	45.96	42.20	20.10	71.50	20.10
4. Gulf Coast region.....	08.23	39.09	18.13	30.75	19.40	23.32	13.50	.....	3.24	40.05	0.07	20.36	143.30	92.27
8. The Interior Plateau.....	86.85	60.38	16.91	18.95	17.02	15.45	2.81	.....	3.24	78.84	8.45	40.02	90.27	75.80
9. Southern Central Appalachian region.....	15.00	17.59	.....	.....	4.43	1.75	.....	.....	1.77	40.25	.....	41.12	91.46	114.23
10. The Ohio River Belt.....	63.87	49.85	43.64	28.70	12.08	8.74	14.56	.....	.....	50.73	.....	57.40	70.59	14.35
11. Southern Interior Plateau.....	15.83	18.02	10.26	8.01	8.65	1.20	1.02	2.00	2.43	31.24	1.02	28.05	90.13	62.11
12. South Mississippi River Belt.....	15.20	16.82	8.61	.....	7.00	.....	.....	.....	.....	50.47	4.30	8.78	42.06	83.43
14. Southwest Central region.....	19.03	11.03	3.12	6.23	4.15	2.75	.....	.....	1.66	12.80	.....	34.28	37.68	52.08
15. Central region, plains and prairies.....	63.51	53.03	4.91	24.01	5.90	7.04	4.91	4.80	1.96	49.46	.....	43.23	48.95	115.28

FIG. 107.—DEATHS FROM CANCER OF THE UTERUS PER 1,000,000 OF FEMALE POPULATION.

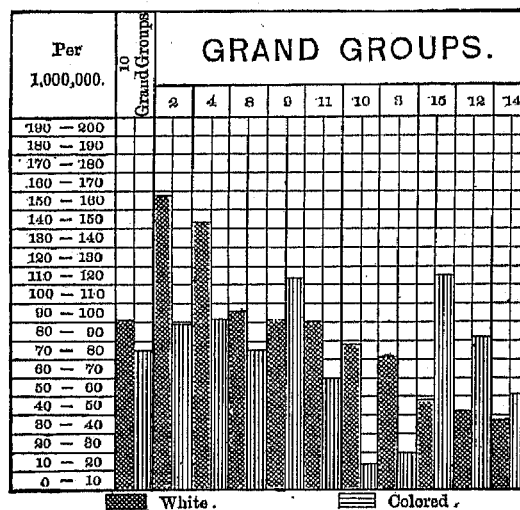
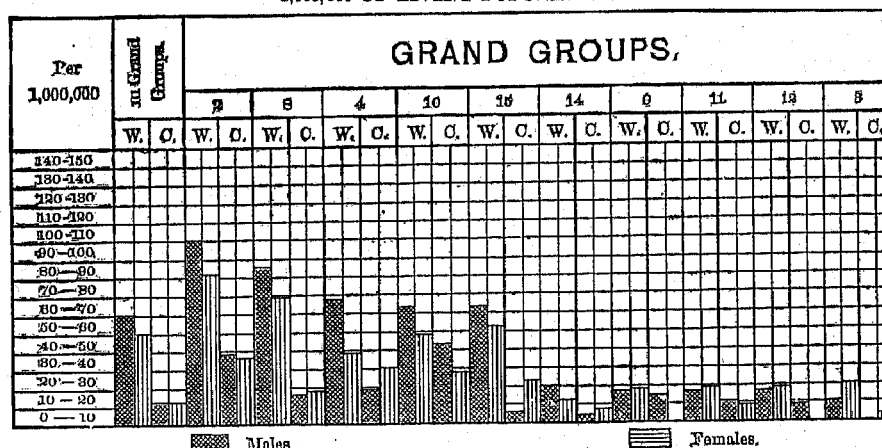


FIG. 108.—DEATHS FROM CANCER OF THE STOMACH IN CERTAIN GRAND GROUPS, PER 1,000,000 OF LIVING POPULATION.



The following table shows the proportion of deaths from cancer of certain organs per 1000 deaths from cancer of which the seat is known, and figs. 109 and 110 show these proportions for cancer of the stomach and cancer of the uterus:

TABLE 132.—SHOWING FOR CERTAIN GRAND GROUPS, WITH DISTINCTION OF COLOR AND SEX, THE NUMBER OF DEATHS FROM CANCER OF THE STOMACH, OF THE LIVER, OF THE BREAST, AND OF THE UTERUS IN 1000 DEATHS FROM CANCER OF WHICH THE SEAT IS KNOWN.

Grand Groups.	IN 1000 DEATHS FROM CANCER OF KNOWN SEAT.													
	Deaths from cancer of the stomach.				Deaths from cancer of the liver.				Deaths from cancer of the breast.				Deaths from cancer of the uterus.	
	White.		Colored.		White.		Colored.		White.		Colored.		White.	Colored.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.		
Total.....	418.54	188.31	416.66	91.50	99.45	55.09	83.33	17.42	146.43	224.70	104.16	235.20	342.23	511.08
2. Middle Atlantic Coast region	392.56	177.75	400.00	142.85	151.95	93.96	40.00	71.42	10.33	211.55	80.00	242.85	341.33	342.85
3. South Atlantic Coast region	166.66	97.56	.....	52.63	.....	.....	.....	.....	219.51	1000.00	263.15	341.40	203.15	203.15
4. Gulf Coast region	262.06	131.86	333.33	175.00	103.44	70.92	250.00	.....	17.24	153.84	100.00	150.00	472.52	525.00
8. The Interior Plateau	473.33	218.20	400.00	120.68	93.33	48.62	66.66	.....	17.77	248.12	200.00	293.10	302.09	482.75
9. Southern Central Appalachian region	204.54	86.58	375.00	.....	56.82	8.65	.....	.....	22.72	242.42	.....	236.84	450.21	657.89
10. The Ohio River Belt.....	456.79	220.93	428.57	117.64	86.41	38.75	142.85	.....	.....	224.80	.....	235.20	352.71	588.23
11. Southern Interior Plateau	194.02	104.16	625.00	70.17	44.77	6.94	62.50	17.54	29.85	180.55	62.50	245.61	520.83	543.85
12. South Mississippi River Belt	333.33	142.85	400.00	.....	166.66	.....	.....	.....	.....	428.57	200.00	86.95	357.14	820.08
14. Southwest Central region	393.44	118.61	333.33	68.82	81.96	29.70	.....	.....	32.78	138.61	.....	323.52	405.94	500.00
15. Central region, plains and prairies.....	513.94	262.62	250.00	108.69	47.80	37.87	250.00	21.73	15.93	244.94	.....	195.65	242.42	521.78

FIG. 109.—DEATHS IN CERTAIN GRAND GROUPS, WITH DISTINCTION OF SEX AND COLOR, FROM CANCER OF THE STOMACH IN 1000 DEATHS FROM CANCER OF WHICH THE SEAT IS KNOWN.

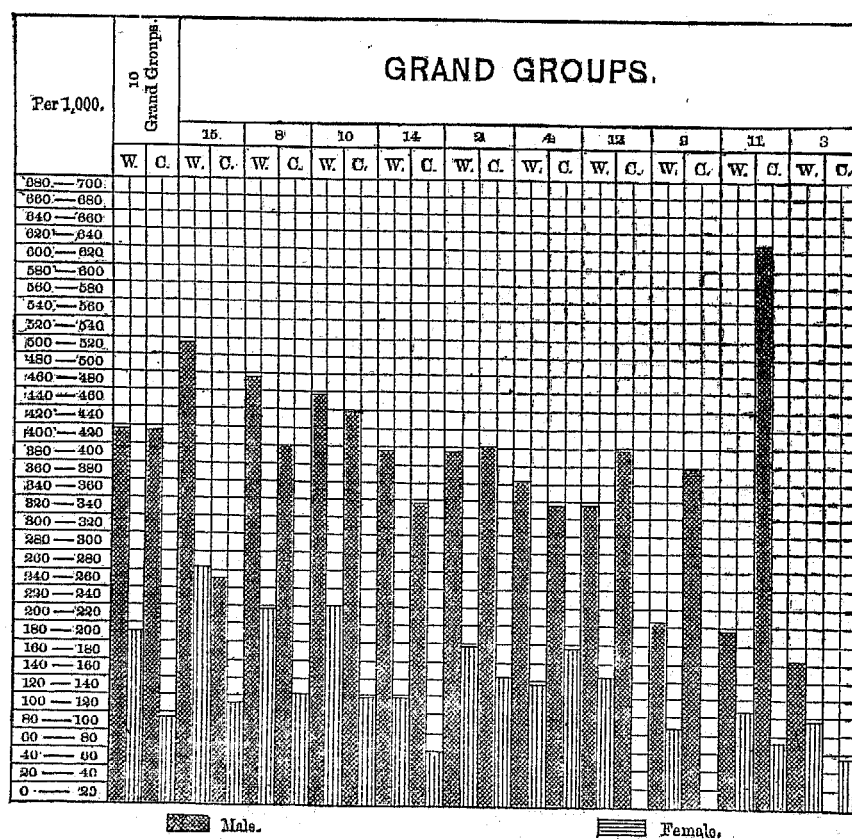
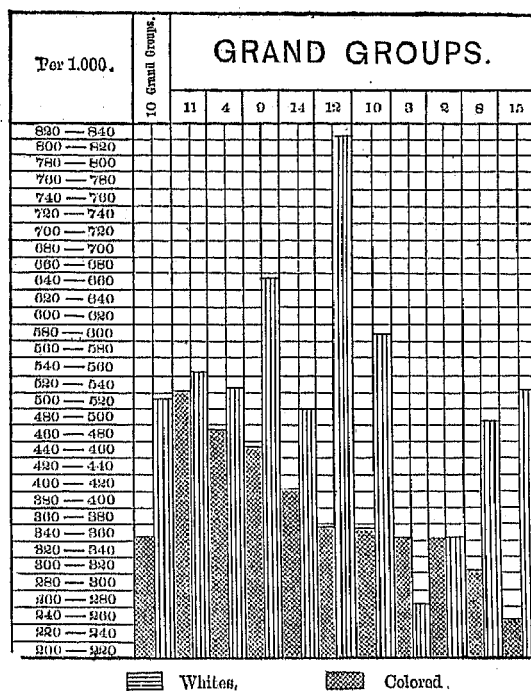


FIG. 110.—DEATHS IN CERTAIN GRAND GROUPS, WITH DISTINCTION OF COLOR, FROM CANCER OF THE UTERUS IN 1000 DEATHS AMONG FEMALES FROM CANCER OF WHICH THE SEAT IS KNOWN.



The following table shows some of the relations of cancer to occupation, as indicated by the census figures:

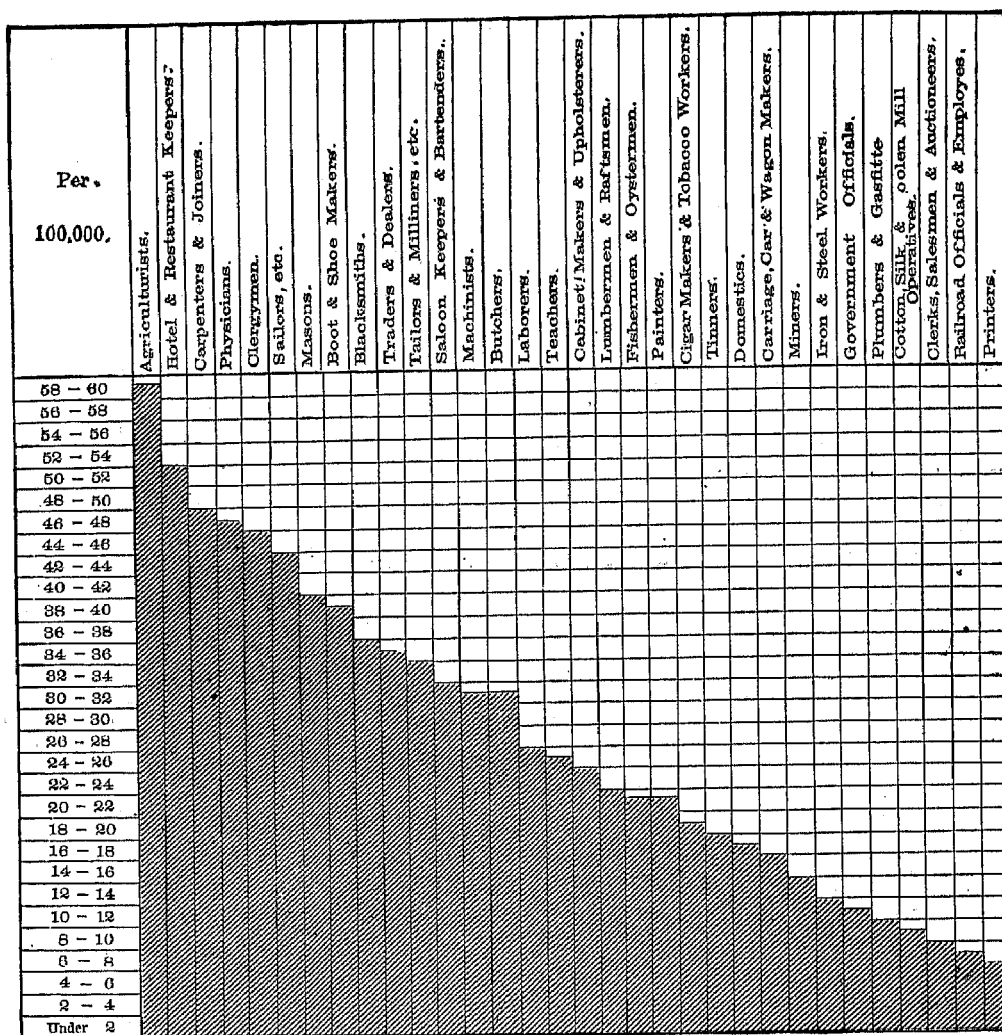
TABLE 133.—SHOWING FOR THE UNITED STATES THE NUMBER OF DEATHS FROM CANCER, WITH DISTINCTION OF SEX, IN CERTAIN OCCUPATIONS, AND THE PROPORTION OF DEATHS FROM CANCER IN 100,000 OF EACH OCCUPATION.

Occupations.	NUMBER ENGAGED IN OCCUPATION.			DEATHS FROM CANCER.			PER 100,000.		
	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.
Agriculturists	3,323,870	2,788,076	534,900	1,090	1,016	74	59.86	68.60	13.83
Clergymen	64,608	61,533	165	30	30	.....	46.36	46.48	.....
Domestics	1,075,055	136,745	938,310	189	6	183	17.57	4.88	19.40
Hotel and restaurant keepers	45,527	42,545	2,982	24	21	3	52.71	49.95	100.60
Laborers	1,850,223	1,796,575	53,648	488	423	65	26.24	23.54	103.75
Government officials	115,531	108,215	7,316	13	12	1	11.25	11.08	13.66
Physicians	83,071	83,239	2,432	41	38	3	47.85	45.05	123.35
Teachers	227,710	73,335	154,375	59	11	48	25.01	14.90	31.09
Railroad officials and employes	250,458	249,954	504	20	20	.....	7.98	8.01	.....
Clerks, salesmen, and auctioneers	445,513	411,682	33,831	37	35	2	8.30	8.50	5.91
Saloon-keepers and bar-tenders	68,461	67,153	1,308	22	21	1	32.12	31.27	76.45
Traders and dealers	481,450	469,985	14,465	172	169	3	35.72	36.18	20.78
Sailors, etc.	100,902	100,060	242	45	45	.....	44.59	44.70	.....
Blacksmiths	172,726	172,726	.....	63	63	.....	36.46	36.46	.....
Boot and shoe makers	194,070	173,072	21,007	76	70	.....	39.15	43.91	.....
Masons	102,473	102,473	.....	41	41	.....	40.01	40.01	.....
Butchers	70,241	70,241	.....	24	24	.....	31.47	31.47	.....
Cabinet-makers and upholsterers	61,097	60,075	1,022	15	15	.....	24.55	24.96	.....
Carpenters and joiners	373,143	373,143	.....	180	180	.....	48.23	48.23	.....
Carriage, car-, and wagon-makers	54,589	54,451	138	9	9	.....	16.48	16.52	.....
Cigar-makers and tobacco-workers	77,045	66,177	10,868	15	13	2	19.46	19.64	18.40
Cotton-, silk-, and woolen-mill operatives	310,533	158,270	152,263	31	21	10	9.08	13.26	6.56
Fishermen and oystermen	41,352	41,237	65	9	9	.....	21.70	21.70	.....
Iron and steel workers	114,539	114,137	402	14	14	.....	12.22	12.26	.....
Lumbermen and raftsmen	30,651	30,651	.....	7	7	.....	22.83	22.83	.....
Machinists	101,130	101,130	.....	32	32	.....	31.64	31.64	.....
Miners	234,228	234,149	79	34	34	.....	14.51	14.52	.....
Painters	128,556	128,290	266	27	27	.....	21.00	21.04	.....
Plumbers and gasfitters	19,383	19,383	.....	2	2	.....	10.31	10.31	.....
Printers	72,726	69,270	3,456	5	5	.....	6.87	7.21	.....
Tailors, milliners, etc.	419,157	85,131	334,026	145	46	99	34.59	54.03	29.63
Tinners	42,818	41,781	1,037	8	7	1	18.63	16.75	96.43

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According to this table, cancer is most frequent among farmers, hotel and restaurant keepers, carpenters and joiners, physicians, clergymen, sailors, etc.; while it is comparatively rare among printers, railroad officials, clerks, government officials, factory operatives, miners, and iron and steel workers, as will be seen by the following diagram. Evidently a very considerable part of these variations depends upon the proportion of males and females engaged in the several occupations, it being borne in mind that the liability to cancer is much greater in females than in males. Another and most potent cause is the different age distribution in the several occupations, and still another is the varying distribution of occupations per 1000 of the living population in different sections of the country, as cancer is much more prevalent in the North than in the South. As the ages have not been tabulated for the living population by occupations, it is impossible to state what influence this has in the table given above. If, however, we consider the fact that the proportion of cancer among males devoted to agricultural pursuits is reported as more than double that of the average population, it seems evident that this excess is not to be accounted for by age distribution alone, but that it is rather a matter of topography and race.

Fig. 111.—DEATHS FROM CANCER PER 100,000 OF LIVING POPULATION OF EACH OCCUPATION.



The following table and diagram show for certain states the number of the living population reported as suffering from cancer on the day of the census, and the proportions of those thus affected per 1000 of the total number reported as sick and disabled on that day. It will be seen that this corresponds, in a general way, to the geographical distribution of deaths reported as due to cancer, the proportion of those suffering from this disease being the greatest in New England and diminishing toward the South and West:

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TABLE 134.—SHOWING THE TOTAL NUMBER OF SICK, THE SICK FROM CANCER, AND THE PROPORTION OF SICK FROM CANCER TO 1000 SICK.

	REPORTED SICK.			SICK FROM CANCER.			SICK FROM CANCER PER 1000 SICK.		
	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.
Total.....	257, 685	135, 338	122, 347	2, 580	965	1, 615	10. 01	7. 13	13. 20
Alabama:									
Group 1.....	731	422	309	7	3	4	9. 14 {	7. 10	12. 04
Group 2.....	4, 228	2, 243	1, 085	40	13	27		5. 79	13. 00
Group 3.....	8, 086	4, 539	4, 147	73	25	48		5. 50	11. 57
California:									
Group 1.....	3, 040	3, 003	937	25	11	14	5. 00 {	6. 34	3. 66
Group 2.....	6, 152	4, 114	2, 038	30	13	17		4. 87	8. 34
Connecticut:									
Group 1.....	4, 700	2, 426	2, 334	42	13	29	10. 00 {	8. 82	5. 35
Group 2.....	3, 068	1, 471	1, 597	38	13	25		12. 38	8. 83
Delaware.....	1, 237	625	612	13	4	9	10. 50	10. 50	6. 40
Georgia:									
Group 1.....	1, 388	628	700	11	4	7	10. 20 {	7. 02	0. 36
Group 2.....	4, 128	1, 795	2, 332	40	14	26		9. 08	7. 79
Group 3.....	5, 844	2, 508	3, 246	70	21	55		13. 00	8. 08
Illinois:									
Group 1.....	4, 209	2, 221	1, 988	34	17	17	8. 04 {	8. 07	7. 65
Group 2.....	5, 031	2, 680	2, 345	40	18	22		7. 95	0. 70
Group 3.....	14, 777	7, 603	7, 100	100	68	92		10. 82	8. 93
Maine:									
Group 1.....	6, 125	3, 199	2, 926	83	40	43	15. 30 {	13. 55	12. 50
Group 2.....	2, 466	1, 314	1, 152	41	19	22		16. 02	14. 45
Maryland:									
Group 1.....	7, 204	3, 039	3, 565	62	17	45	8. 34 {	8. 60	4. 67
Group 2.....	990	528	462	8	3	5		8. 08	5. 68
Michigan:									
Group 1.....	8, 827	5, 308	3, 510	58	28	30	7. 61 {	6. 57	5. 27
Group 2.....	10, 865	6, 211	4, 654	94	28	66		8. 65	4. 50
New Hampshire:									
Group 1.....	3, 210	1, 547	1, 672	42	20	22	14. 29 {	13. 04	12. 62
Group 2.....	1, 607	776	831	25	11	14		15. 55	14. 17
New Jersey:									
Group 1.....	7, 745	4, 145	3, 600	92	35	57	10. 97 {	11. 87	8. 44
Group 2.....	2, 978	1, 628	1, 350	30	18	12		10. 07	11. 05
New York:									
Group 1.....	17, 141	9, 364	7, 777	131	46	85	10. 91 {	7. 64	4. 01
Group 2.....	2, 238	1, 001	1, 147	23	4	19		10. 27	3. 68
Group 3.....	2, 303	1, 227	1, 076	31	15	16		13. 46	12. 22
Group 4.....	7, 093	3, 921	3, 772	83	28	55		10. 78	7. 14
Group 5.....	16, 362	8, 394	7, 968	203	67	136		12. 40	7. 98
North Carolina:									
Group 1.....	4, 501	2, 014	2, 487	44	16	28	9. 89 {	9. 77	7. 94
Group 2.....	7, 312	3, 213	4, 099	63	17	46		8. 61	5. 29
Group 3.....	2, 565	1, 233	1, 332	29	0	20		11. 80	7. 29
Pennsylvania:									
Group 1.....	15, 187	8, 354	6, 833	173	83	90	10. 70 {	11. 39	9. 03
Group 2.....	25, 679	13, 002	12, 677	268	122	146		10. 43	6. 02
Rhode Island.....	3, 039	1, 600	1, 439	33	11	22	10. 85	10. 85	6. 87
South Carolina:									
Group 1.....	3, 248	1, 603	1, 645	20	0	14	9. 69 {	6. 15	3. 74
Group 2.....	396	191	145	5	2	3		4. 88	10. 47
Group 3.....	7, 443	3, 774	3, 669	60	25	35		8. 06	6. 62
Vermont.....	3, 676	1, 805	1, 871	58	27	31	15. 77	15. 77	14. 95
Virginia:									
Group 1.....	2, 527	1, 207	1, 320	17	5	12	10. 81 {	6. 72	4. 14
Group 2.....	5, 080	2, 391	2, 689	59	22	37		11. 61	9. 20
Group 3.....	4, 677	2, 259	2, 418	59	22	37		12. 61	9. 73
West Virginia:									
Group 1.....	3, 174	1, 630	1, 544	38	14	24	8. 86 {	11. 97	8. 53
Group 2.....	3, 299	1, 790	1, 509	10	8	11		5. 75	4. 46

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FIG. 112.—SHOWING FOR CERTAIN STATES THE PRO-
PORTION OF SICK FROM CANCER IN 1000 OF SICK
FROM ALL CAUSES.

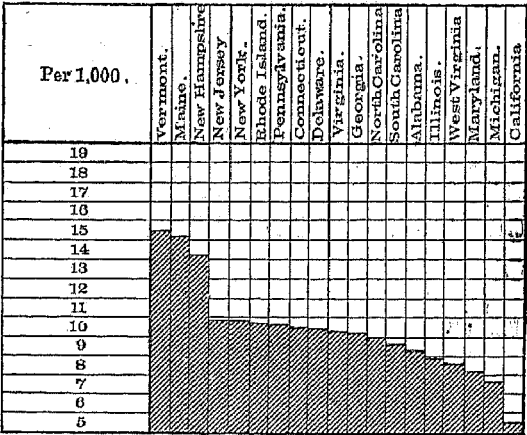


TABLE 135.—SHOWING FOR CERTAIN STATES OR PORTIONS OF STATES THE NUMBER OF SICK FROM CANCER AT CERTAIN
GROUPS OF AGES IN 1000 SICK OF ALL AGES.

Ages.	SICK FROM CANCER.		PER 1000 OF SICK.		Ages.	SICK FROM CANCER.		PER 1000 OF SICK.	
	Males.	Females.	Males.	Females.		Males.	Females.	Males.	Females.
Under 5 years	8	1	3.1	0.6	50-55 years	91	170	94.3	108.9
5-10 years	4	6	4.1	3.7	55-60 years	95	160	98.4	99.0
10-15 years	13	8	13.4	4.0	60-65 years	120	179	124.3	110.8
15-20 years	7	21	7.2	13.0	65-70 years	125	154	129.5	95.3
20-25 years	13	27	13.4	13.7	70-75 years	125	116	129.5	71.8
25-30 years	25	37	25.9	23.2	75-80 years	97	95	100.5	58.8
30-35 years	19	65	19.0	40.2	80-85 years	65	65	67.3	40.2
35-40 years	31	105	32.1	65.0	85-90 years	28	35	29.0	21.6
40-45 years	44	163	45.5	100.9	90-95 years	11	14	11.3	8.6
45-50 years	47	186	48.7	115.1	95 and over	2	2	2.0	1.2

FIG. 113.—SICK FROM CANCER IN CERTAIN STATES OR
PORTIONS OF STATES AT GROUPS OF AGES IN 1000 OF
SICK OF ALL AGES.

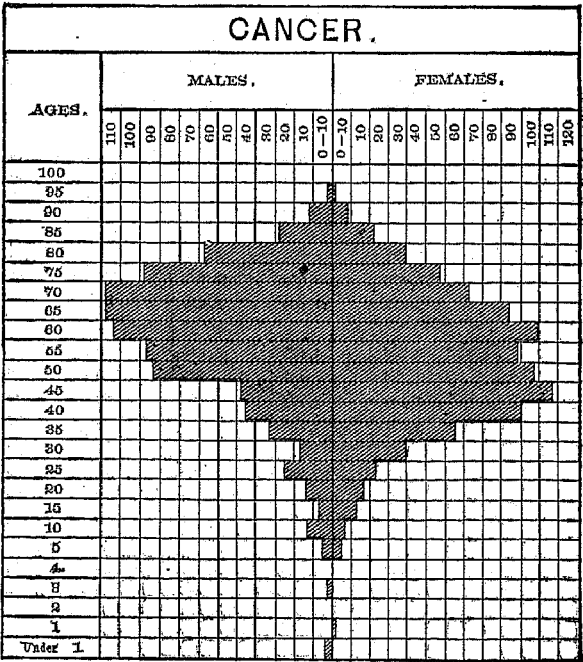
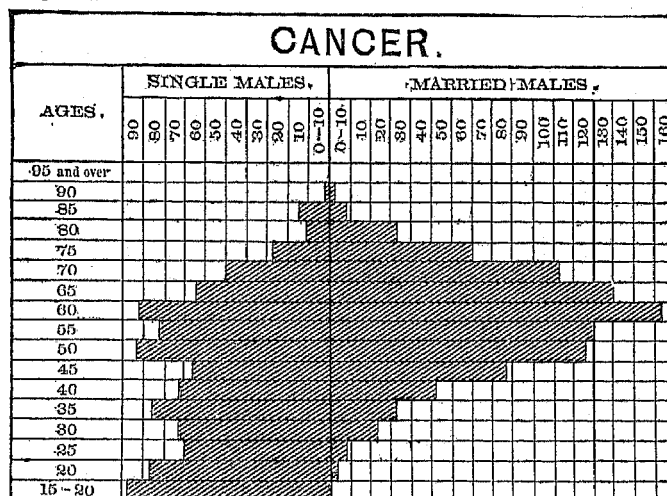


FIG. 114.—DEATHS FROM CANCER, BY AGES, PER 1000 DEATHS FROM CANCER AMONG SINGLE AND MARRIED MALES OVER 15 YEARS OF AGE.



The following table and diagrams show the relation of the age at death from cancer to conjugal relations. As the conjugal relations of the living population have not been tabulated, and therefore the number of single, married, and widowed for either sex is not known, no comparisons can be made in this direction, and the interest of these computations is thus much diminished. It is clear, nevertheless, that, both in males and females, a larger proportion of deaths from cancer occur in the unmarried prior to the age of 45 than is the case for married or widows. From 45 to 55 years of age is the period of greatest mortality in married females, and from 60 to 70 in married males, after which period it rapidly diminishes in proportion to the total number of deaths from cancer. In single females, however, this diminution is much less rapid, and, if considered with regard to the number of living population furnishing the deaths, it is evident that the mortality continues steadily to increase with advancing age. It does not follow from these figures that marriage has any special influence on the production of cancer, or upon its earlier or later development in life. The absolute proportion of deaths from it in relation to the living population should be greater in the married than in the single, for the simple reason that, as a rule, it is the strongest, best, and wisest who, by a process of natural selection, marry, and who live to advanced ages, when cancer becomes proportionately more frequent:

TABLE 136.—SHOWING PROPORTION, BY AGES, OF DEATHS FROM CANCER OF SINGLE MALES AND FEMALES, MARRIED MALES AND FEMALES, AND WIDOWS, IN 1000 DEATHS FROM CANCER AT 15 YEARS OF AGE AND OVER.

Ages.	SINGLE.		MARRIED.		Widows.
	Males.	Females.	Males.	Females.	
15-20 years	97.0	50.3	.....	1.1	.....
20-25 years	87.3	47.1	4.3	9.1	1.3
25-30 years	70.3	44.1	9.8	22.9	0.9
30-35 years	72.8	45.0	24.6	45.5	9.0
35-40 years	87.3	77.0	32.0	88.1	20.4
40-45 years	72.8	91.3	51.7	119.4	49.8
45-50 years	65.5	108.0	88.9	157.4	67.5
50-55 years	94.0	94.3	126.5	157.8	100.2
55-60 years	84.0	101.9	130.8	123.6	107.9
60-65 years	92.2	85.2	162.2	106.2	124.2
65-70 years	65.5	82.1	140.3	77.4	143.7
70-75 years	60.9	79.1	112.9	49.7	120.2
75-80 years	29.1	30.5	70.7	25.8	123.8
80-85 years	12.1	35.0	32.0	11.3	74.3
85-90 years	14.5	7.0	9.8	2.4	29.9
90-95 years	2.4	6.0	2.1	1.3	10.8
95 and over .....	.....	1.5	0.3	.....	6.3

FIG. 115.—DEATHS FROM CANCER OF SINGLE AND MARRIED FEMALES OVER 15 YEARS IN 1000 DEATHS CAUSED BY THIS DISEASE.

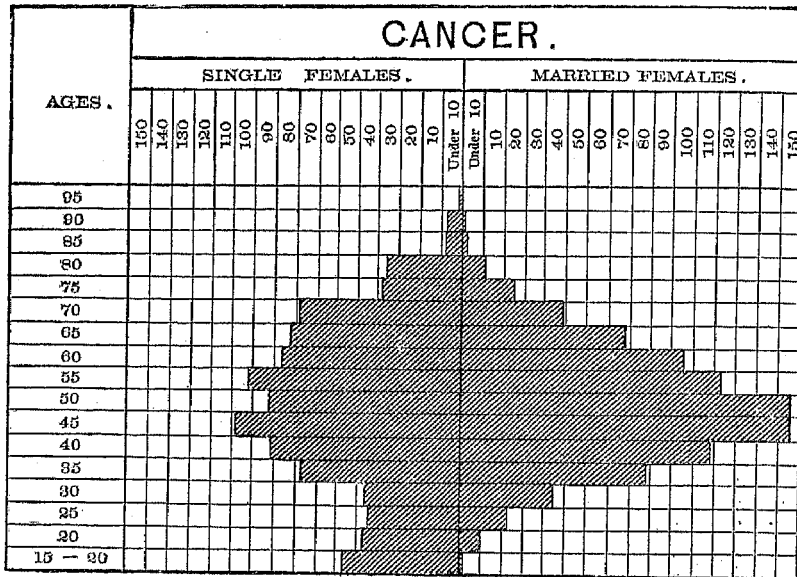
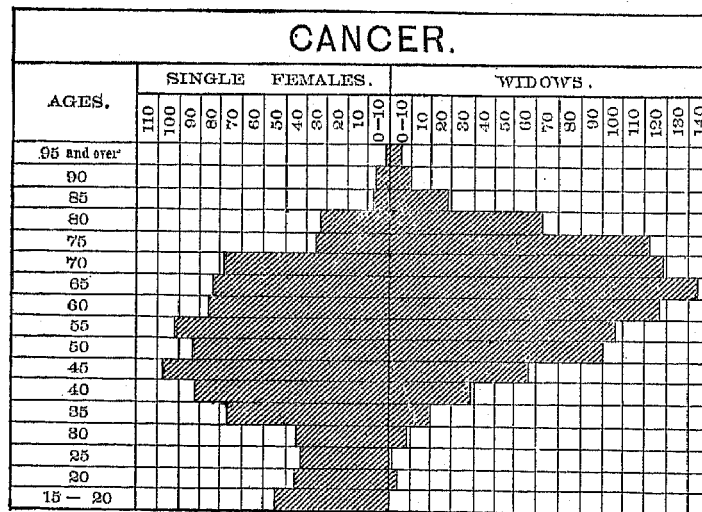
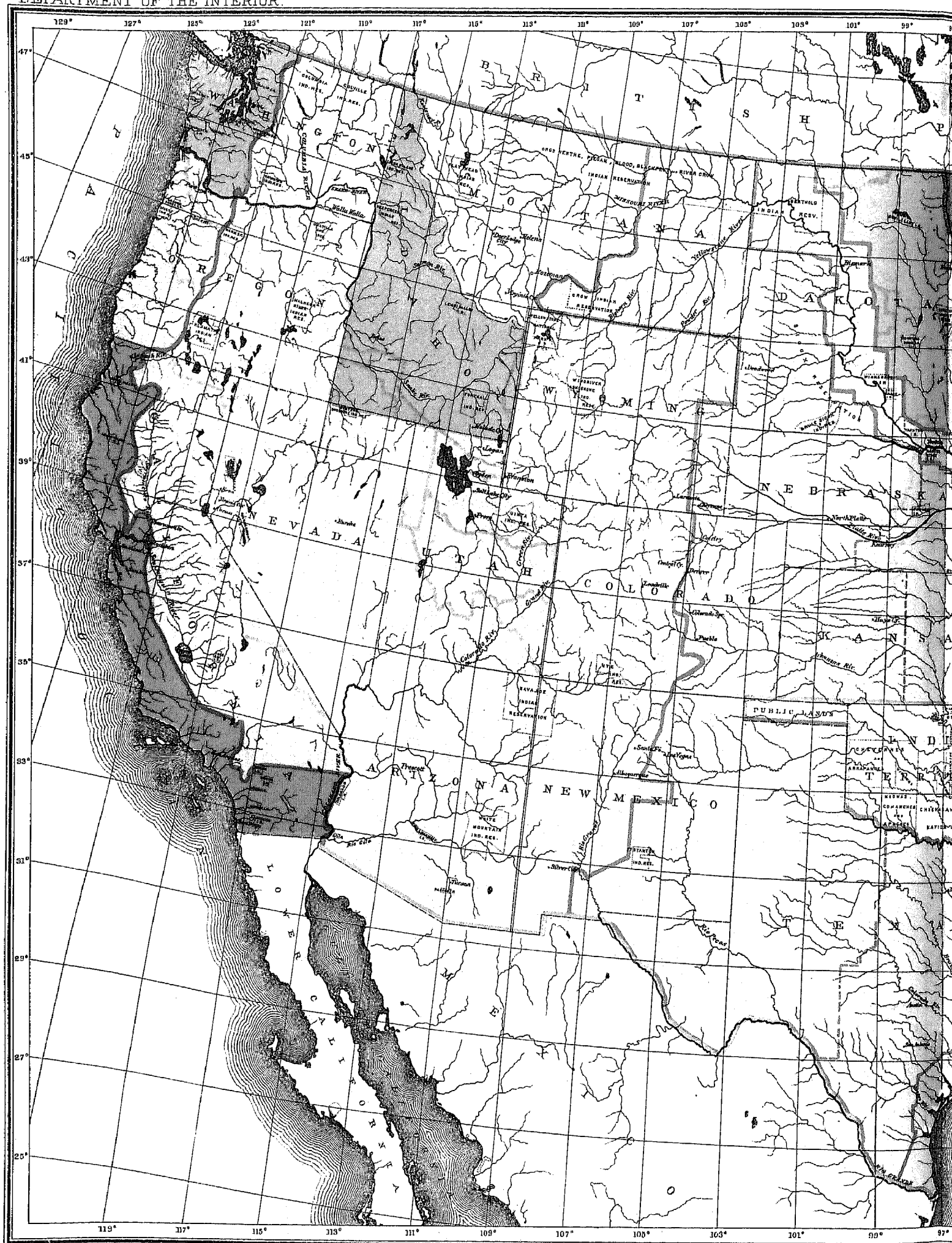


FIG. 116.—DEATHS FROM CANCER OF SINGLE FEMALES AND WIDOWS
OVER 15 YEARS OF AGE IN 1000 DEATHS CAUSED BY THIS DISEASE.







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The geographical distribution of the deaths reported as due to cancer in the United States is indicated in Map No. 14, and by the following table, which shows by grand groups the proportion of deaths from this cause reported per 100,000 of living population, with distinction of rural and cities:

TABLE 137.—SHOWING THE NUMBER OF DEATHS FROM CANCER IN THE UNITED STATES AND IN EACH GRAND GROUP IN 100,000 OF LIVING POPULATION, IN CITIES AND RURAL DISTRICTS, WITH DISTINCTION OF SEX.

Grand Groups.	POPULATION.			DEATHS FROM CANCER.			PER 100,000 OF LIVING POPULATION.		
	Total.	Cities.	Rural.	Total.	Cities.	Rural.	Total.	Cities.	Rural.
Total	50,155,783	7,791,040	42,304,734	13,068	3,129	9,939	26.05	40.16	23.46
The United States	{ M. 25,518,820 F. 24,636,963	8,828,026 8,968,022	21,095,794 20,668,940	4,875 8,193	1,079 2,050	3,796 6,143	10.10 31.25	28.22 51.66	17.40 29.72
1. North Atlantic Coast region	{ M. 1,265,273 F. 1,351,597	303,585 405,523	901,688 946,074	428 841	105 230	318 688	33.43 62.22	28.87 62.38	35.20 62.15
	2,616,870	769,108	1,847,762	1,264	358	906	48.80	46.54	49.03
2. Middle Atlantic Coast region	{ M. 2,150,337 F. 2,225,798	1,255,135 1,338,800	895,202 886,998	612 1,127	404 804	208 323	28.40 50.69	32.18 60.05	23.23 36.41
	4,376,135	2,593,935	1,782,200	1,739	1,208	531	30.73	46.57	29.79
3. South Atlantic Coast region	{ M. 430,651 F. 444,435	22,585 27,399	408,066 417,036	40 99	3 7	37 92	9.28 22.27	13.28 25.54	9.00 22.08
	875,086	49,984	825,102	139	10	129	15.88	20.00	15.63
4. Gulf Coast region	{ M. 528,387 F. 527,647	100,892 115,198	427,495 412,449	84 164	45 87	39 77	15.89 31.08	44.00 75.52	9.12 18.66
	1,056,034	216,090	839,944	248	132	116	23.48	61.08	18.81
5. Northeastern Hills and Plateaus	{ M. 831,940 F. 897,289	49,073 51,293	782,867 786,996	305 504	11 20	294 484	36.66 60.19	22.41 39.03	37.55 61.57
	1,669,229	100,366	1,568,863	809	31	778	48.46	39.90	49.58
6. Central Appalachian region	{ M. 1,178,893 F. 1,165,256	47,935 48,940	1,130,898 1,116,310	252 439	4 25	248 414	21.37 37.07	8.34 51.07	21.93 37.08
	2,344,149	96,875	2,247,274	691	29	662	29.47	29.93	29.45
7. Region of the Great Northern Lakes	{ M. 1,560,867 F. 1,488,535	595,043 504,252	965,824 984,283	365 533	153 214	212 319	23.38 65.80	25.08 30.01	21.09 35.47
	3,049,402	1,099,295	1,950,107	898	367	531	29.44	30.84	28.55
8. The Interior Plateau	{ M. 2,821,388 F. 2,898,295	669,116 719,800	2,152,272 2,178,495	710 1,221	166 350	544 871	25.16 42.20	24.80 48.65	25.27 40.06
	5,719,683	1,388,916	4,330,767	1,931	516	1,415	33.79	37.10	32.70
9. Southern Central Appalachian region	{ M. 1,342,115 F. 1,355,843	.....	1,342,115 1,355,843	104 360	.....	164 369	12.21 27.21	.....	12.21 27.21
	2,697,958	.....	2,697,958	533	.....	533	19.75	.....	19.75
10. The Ohio River Belt	{ M. 1,227,333 F. 1,213,066	203,443 214,132	1,023,890 998,934	238 374	54 100	184 274	19.39 30.83	26.54 46.70	17.07 27.43
	2,440,399	417,575	2,022,824	612	154	458	25.07	36.87	22.64
11. Southern Interior Plateau	{ M. 1,795,208 F. 1,830,337	.....	1,795,208 1,830,337	157 371	.....	157 371	8.74 20.20	.....	8.74 20.20
	3,625,545	.....	3,625,545	528	.....	528	14.56	.....	14.56
12. South Mississippi River Belt	{ M. 363,673 F. 346,577	.....	363,673 346,577	16 56	.....	16 56	4.39 16.15	.....	4.39 16.15
	710,250	.....	710,250	72	.....	72	10.13	.....	10.13
13. North Mississippi River Belt	{ M. 1,033,693 F. 957,284	227,172 211,706	806,461 745,578	197 274	46 88	151 186	19.05 28.62	20.24 41.56	18.72 24.94
	1,990,917	438,878	1,552,039	471	134	337	23.05	30.53	21.71
14. Southwest Central region	{ M. 1,523,901 F. 1,408,715	1,523,901 1,408,715	114 203	114 203	7.48 14.41	7.48 14.41
	2,932,676	2,932,676	317	317	10.80	10.80

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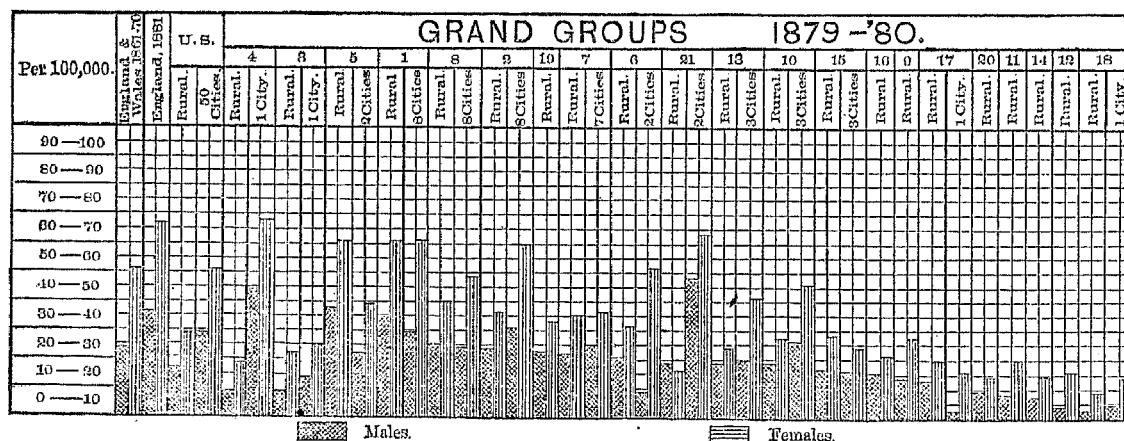
TABLE 137.—SHOWING THE NUMBER OF DEATHS FROM CANCER IN THE UNITED STATES AND IN EACH GRAND GROUP IN 100,000 OF LIVING POPULATION, IN CITIES AND RURAL DISTRICTS, WITH DISTINCTION OF SEX—Continued.

Grand Groups.		POPULATION.			DEATHS FROM CANCER.			PER 100,000 OF LIVING POPULATION.		
		Total.	Cities.	Rural.	Total.	Cities.	Rural.	Total.	Cities.	Rural.
15. Central region, plains and prairies.....	M.	2,234,368	84,184	2,150,184	375	13	362	16.78	15.44	16.83
	F.	2,169,294	85,869	2,083,425	617	21	596	28.44	24.45	28.00
		4,403,662	170,053	4,233,609	992	34	958	22.52	19.90	22.02
16. The Prairie region	M.	2,997,699	.....	2,997,699	456	.....	456	15.21	.....	15.21
	F.	2,724,227	.....	2,724,227	578	.....	578	21.21	.....	21.21
		5,721,836	.....	5,721,836	1,034	.....	1,034	18.07	.....	18.07
17. Missouri River Belt	M.	448,108	31,999	416,109	50	1	49	11.15	3.12	11.77
	F.	387,586	23,786	363,800	77	4	73	19.86	16.81	20.06
		835,694	55,785	779,909	127	5	122	15.10	8.96	15.64
18. Region of the Western Plains.....	M.	190,732	21,539	169,193	7	1	6	3.67	4.64	3.54
	F.	133,536	14,090	119,446	12	2	10	8.98	14.19	8.97
		324,268	35,629	288,639	19	3	16	5.85	8.42	5.54
19. Heavily-timbered region of the Northwest.....	M.	594,991	.....	594,991	131	.....	131	22.01	.....	22.01
	F.	528,428	.....	528,428	177	.....	177	33.49	.....	33.49
		1,123,419	.....	1,123,419	308	.....	308	27.41	.....	27.41
20. Cordilleran region	M.	586,445	.....	586,445	55	.....	55	9.37	.....	9.37
	F.	345,465	.....	345,465	51	.....	51	14.70	.....	14.70
		931,910	.....	931,910	106	.....	106	11.37	.....	11.37
21. Pacific Coast region	M.	412,968	150,725	262,243	124	73	51	30.02	48.43	19.44
	F.	302,813	117,789	185,024	106	75	31	35.00	63.67	14.75
		715,781	268,514	447,267	230	148	82	32.13	55.11	18.33

It will be seen that cancer is especially prevalent in the New England states and on the southern Pacific coast; that it is prevalent in New York, Pennsylvania, and Ohio, in the interior of Michigan, and in the southern part of Wisconsin. It is least prevalent upon the Mississippi and in the South, and the proportions are generally lower in the coast regions than in the interior.

The following diagram shows the comparison between the ratios to living population and the ratios to total number of deaths in the United States for each grand group, and for England and Wales for 11 years, which last are given for purposes of comparison:

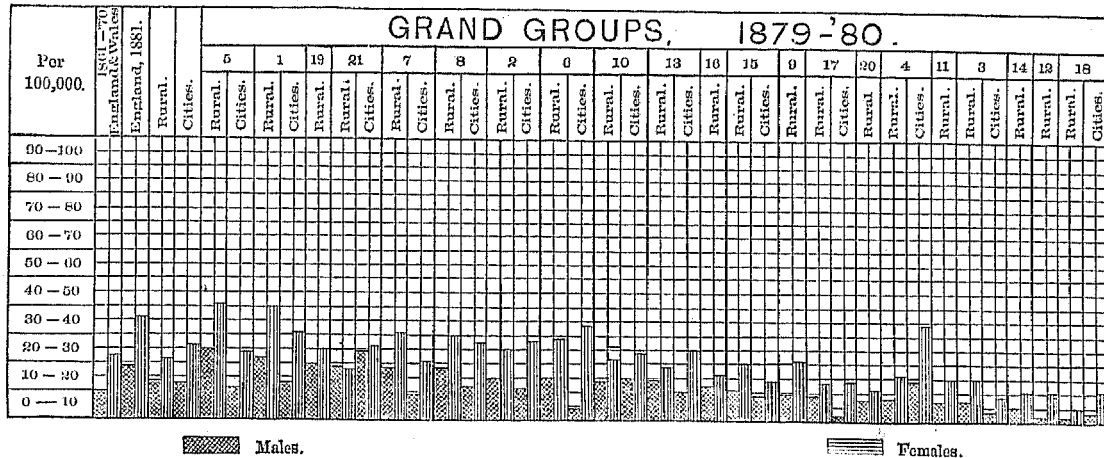
FIG. 117.—DEATHS FROM CANCER IN THE UNITED STATES AND IN GRAND GROUPS DURING THE CENSUS YEAR, IN ENGLAND AND WALES 1861-'70, AND IN ENGLAND 1881, PER 100,000 OF POPULATION.



The peculiarities of the local prevalence of cancer indicated above may be explained in part by the peculiarities of the population in the several regions of the United States as regards race and age. We have seen that cancer is less frequent in the colored than in the white race, and that it is more frequent among Irish and Germans than among the average white population, which is one reason why the mortality from cancer is low in the South as compared with the North; also, as cancer is a disease the mortality from which increases with advancing age, it follows that it should cause a higher proportion of mortality in those localities having the greatest proportion of population living at advanced ages, and in the United States these localities are the New England states. A comparison of Map No. 14, showing the geographical distribution of deaths from cancer, with Map No. 16,

showing the geographical distribution of deaths from old age, will make this point clear. It follows that in any given locality a large proportion of deaths from cancer indicates to a certain extent that the locality is a healthful and a long-settled one, and has a large proportion of inhabitants of an advanced age.

FIG. 118.—DEATHS FROM CANCER IN THE UNITED STATES IN GRAND GROUPS DURING THE CENSUS YEAR, IN ENGLAND AND WALES 1861-'70 TO 1870, AND IN ENGLAND 1881, PER 1000 DEATHS FROM KNOWN CAUSES.



As the result of an examination of the reports of deaths from cancer in England and Wales for the 10 years 1851-'60, Dr. Haviland found that in those regions having the lowest degree of mortality in relation to the living population there was an elevated situation, with a hard, rocky foundation, a single water-shed, consisting of many distinct streams flowing directly to the sea, instead of combining to form a river basin, comparatively scanty herbage, and very full exposure to strong winds; where the mortality was highest the situation was usually low, the geological formation softer and more recent, often alluvial; that the lowest mortality from cancer was in the places of greatest density of population, and that where cancer is most fatal the mortality is below the average. A high mortality from cancer is found in places subject to floods from rivers carrying much alluvial matter.

Dr. Haviland does not say whether the increased mortality from cancer in the healthful and rural districts corresponded with the increased proportion of persons living at advanced age in those localities, but it will be seen that, as far as they go, his conclusions are quite in accord with the results of the census.

In England and Wales there has been a progressive increase in the proportion of the number of deaths reported as due to cancer, as will be seen by the following table, which indicates that while there has been a diminution in the general death rate from all causes from 24.70 to 19.55 per 1000 of population, the proportion of deaths from cancer has steadily increased from 26.76 per 100,000 of population in 1847 to 53.21 in 1882. That is to say, the proportion of deaths from this cause has nearly doubled in 26 years. A part of this increase is, no doubt, due to an increased proportion of persons living at the greater ages and more liable to cancer, yet this alone can not be considered as fully explaining the increase.

TABLE 138.—SHOWING FOR ENGLAND AND WALES, BY SINGLE YEARS FROM 1847 TO 1882, INCLUSIVE, THE ESTIMATED POPULATION, THE TOTAL NUMBER OF DEATHS, THE NUMBER OF DEATHS FROM CANCER, THE RATIO OF DEATHS IN 1000 OF POPULATION, AND THE RATIO OF DEATHS FROM CANCER IN 100,000 OF POPULATION.

Year.	Population.	Total number of deaths.	Deaths from cancer.	Ratio of deaths in 1000 of population.	Ratio of deaths from cancer in 100,000 of population.	Year.	Population.	Total number of deaths.	Deaths from cancer.	Ratio of deaths in 1000 of population.	Ratio of deaths from cancer in 100,000 of population.
1847....	17,131,512	423,304	4,580	24.70	26.76	1855....	18,786,914	425,703	6,016	22.65	32.02
1848....	17,340,492	398,533	4,825	22.98	27.82	1856....	19,045,187	390,506	5,850	20.50	30.70
1849....	17,552,020	440,839	4,807	25.11	27.38	1857....	19,304,807	419,805	6,201	21.74	32.12
1850....	17,927,609	368,905	4,966	20.58	27.70	1858....	19,523,103	449,650	6,433	23.03	32.95
1851....	17,982,840	395,396	5,218	21.98	29.01	1859....	19,746,000	440,781	6,676	22.32	33.80
1852....	18,205,027	407,135	5,477	22.36	30.08	1860....	19,902,918	422,721	6,827	21.23	34.30
1853....	18,403,313	421,097	5,663	22.88	30.77	1861....	20,119,496	435,114	7,276	21.62	36.16
1854....	18,618,760	437,905	5,826	23.51	31.20	1862....	20,330,467	436,566	7,396	21.40	36.30
1855....	18,786,914	425,703	6,016	22.65	32.02	1863....	20,554,137	473,837	7,479	23.05	36.38
1856....	19,045,187	390,506	5,850	20.50	30.70	1864....	20,772,308	495,531	8,117	23.85	39.07
1857....	19,304,807	419,805	6,201	21.74	32.12	1865....	20,990,940	490,909	7,922	23.38	37.74
1858....	19,523,103	449,650	6,433	23.03	32.95	1866....	21,210,020	500,689	8,293	23.60	39.09
1859....	19,746,000	440,781	6,676	22.32	33.80	1867....	21,429,508	471,075	8,545	21.98	39.87
1860....	19,902,918	422,721	6,827	21.23	34.30	1868....	21,649,377	480,622	8,880	22.20	41.01
1861....	20,119,496	435,114	7,276	21.62	36.16	1869....	21,869,607	494,828	9,314	22.02	42.53
1862....	20,330,467	436,566	7,396	21.40	36.30	1870....	22,467,366	515,329	9,598	22.94	42.73
1863....	20,554,137	473,837	7,479	23.05	36.38	1871....	22,782,812	514,879	9,091	22.50	42.53
1864....	20,772,308	495,531	8,117	23.85	39.07	1872....	23,067,895	492,265	9,093	21.33	43.32
						1873....	23,356,414	492,520	10,455	21.08	44.76
						1874....	23,648,609	526,632	11,011	22.26	46.56
						1875....	23,944,450	546,453	11,220	22.82	46.65
						1876....	24,244,010	510,315	11,411	21.64	47.06
						1877....	24,547,309	500,490	11,061	20.38	42.76
						1878....	24,854,307	539,872	12,594	21.72	50.67
						1879....	25,165,336	526,255	12,629	20.91	50.18
						1880....	25,708,666	528,624	13,102	20.56	50.96
						1881....	26,055,400	491,935	13,542	18.88	51.97
						1882....	26,413,861	516,654	14,057	19.55	53.21

MORTALITY AND VITAL STATISTICS.

The same thing appears in the following table, showing the relations of the number of deaths from cancer to deaths from known causes in England and Wales from 1847 to 1882. From this it will be seen that the proportion of deaths from cancer to deaths from all known causes has more than doubled during this period:

TABLE 139.—SHOWING FOR ENGLAND AND WALES, BY SINGLE YEARS FROM 1847 TO 1882, INCLUSIVE, THE TOTAL NUMBER OF DEATHS, THE NUMBER OF DEATHS FROM KNOWN CAUSES, THE NUMBER OF DEATHS FROM CANCER, AND THE RATIO OF DEATHS FROM CANCER IN 1000 DEATHS FROM KNOWN CAUSES.

Year.	Total number of deaths.	Deaths from known causes.	Deaths from cancer.	Ratio of deaths from cancer in 1000 deaths from known causes.	Year.	Total number of deaths.	Deaths from known causes.	Deaths from cancer.	Ratio of deaths from cancer in 1000 deaths from known causes.
1847.....	423,804	406,634	4,556	11.27	1865.....	490,909	482,509	7,922	16.41
1848.....	398,533	387,424	4,825	12.45	1866.....	500,689	492,111	8,293	16.85
1849.....	440,839	432,704	4,807	11.10	1867.....	471,075	462,939	8,545	18.45
1850.....	368,095	368,602	4,968	13.47	1868.....	480,622	473,773	8,880	18.74
1851.....	395,306	388,676	5,218	13.42	1869.....	494,823	488,117	9,314	19.08
1852.....	407,135	400,439	5,477	13.67	1870.....	515,329	507,921	9,598	18.89
1853.....	421,097	414,198	5,668	13.67	1871.....	514,879	507,713	9,691	19.08
1854.....	437,905	432,242	5,826	13.47	1872.....	492,265	485,559	9,993	20.58
1855.....	425,703	419,798	6,016	14.33	1873.....	492,520	485,735	10,455	21.52
1856.....	390,506	385,840	5,859	15.18	1874.....	526,692	519,366	11,011	21.20
1857.....	419,805	415,035	6,201	14.94	1875.....	546,453	540,408	11,220	20.76
1858.....	449,656	440,922	6,433	14.58	1876.....	510,315	505,434	11,411	22.57
1859.....	440,781	532,476	6,676	12.53	1877.....	500,496	496,097	11,961	24.11
1860.....	422,721	414,060	6,827	16.48	1878.....	539,872	530,872	12,594	23.32
1861.....	435,114	427,860	7,276	17.02	1879.....	526,255	522,044	12,629	24.10
1862.....	436,566	429,000	7,396	17.24	1880.....	528,624	525,016	13,102	24.95
1863.....	473,837	465,874	7,479	16.05	1881.....	491,035	491,935	13,542	27.52
1864.....	495,531	487,732	8,117	16.64	1882.....	516,654	516,654	14,057	27.20

DEATHS FROM CERTAIN SPECIFIED CAUSES.

Table XVIII shows for the whole United States, and for each state group, with distinction of the large cities in the group, the number of deaths from each reported cause of death, arranged alphabetically. In this table will be found the figures for some causes of death which are not given in Table VII (Part I of this report), or in the tables computed from it.

The following table shows the number of deaths reported as due to some causes of death of this class, with distinction of color, sex, and age:

TABLE 140.—SHOWING THE NUMBER OF DEATHS FROM SPECIFIED CAUSES IN THE UNITED STATES REPORTED DURING THE CENSUS YEAR 1879-'80, WITH DISTINCTION OF COLOR, SEX, AND AGE.

Causes of death.	Total.	Under 1.	1.	2.	3.	4.	Total under 5.	5 to 10.	10 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 and over.	Unknown.
Elephantiasis.....Total..	10								1	1	1	2	2	2	1			
White.....{M.	8									1			2					
White.....{F.	6								1			2		2	1			
Colored.....{M.	1										1							
Colored.....{F.																		
Frozen.....Total..	133	6	1	2	1		10	3	8	27	17	19	14	14	14	4	3	
White.....{M.	89	3	1	1			5	2	5	16	11	16	12	11	9	2		
White.....{F.	10								2	1	3	3	2	1	2	1		
Colored.....{M.	29	1		1	1		3	1	1	9	3	3	2	2	2	2	1	
Colored.....{F.	5	2					2			1				1		1	1	
Goitre.....Total..	33	2					2		4	4	3	3	4	6	4	2		1
White.....{M.	6								1		1	1	1			1		1
White.....{F.	24	1					1		3	4	2	1	3	6	3	1		
Colored.....{M.																		
Colored.....{F.	3	1					1					1			1			
Goitre, exophthalmic.....Total..	9								1	2	1	1	2		1			1
White.....{M.																		
White.....{F.	7								1	2	1	1	1		1			
Colored.....{M.																		
Colored.....{F.	2												1					1

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TABLE 140.—SHOWING THE NUMBER OF DEATHS FROM SPECIFIED CAUSES IN THE UNITED STATES REPORTED DURING THE CENSUS YEAR 1879-'80, WITH DISTINCTION OF COLOR, SEX, AND AGE—Continued.

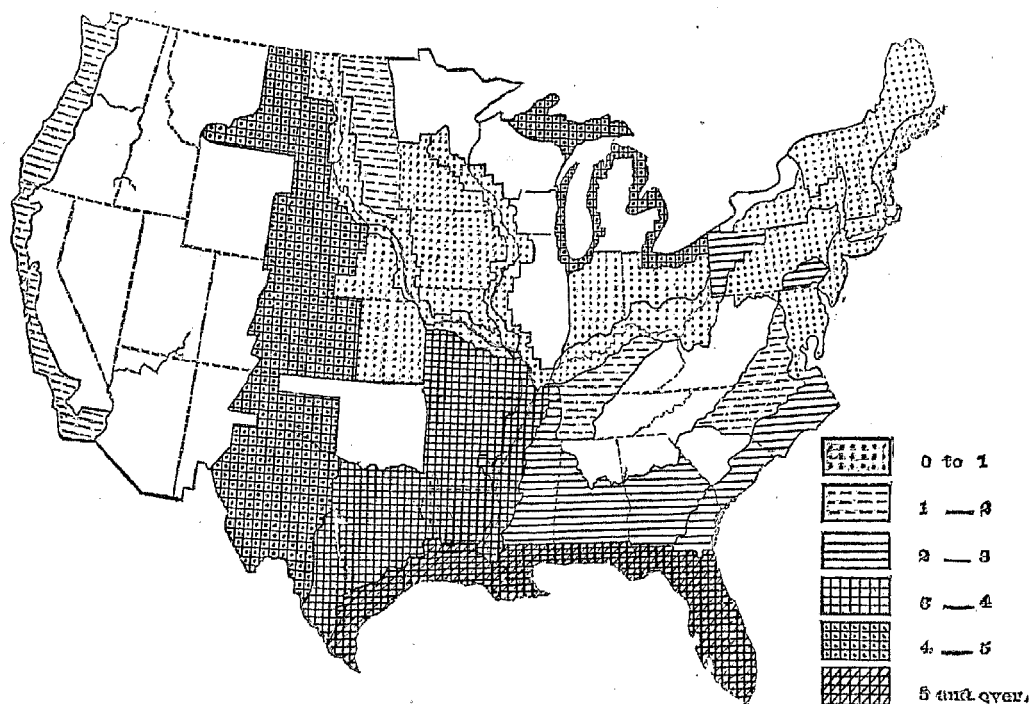
Causes of death.	Total	Under 1.	1.	2.	3.	4.	Total under 5.	5 to 10.	10 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 and over.	Unknown.
Hydrophobia Total..	80	1	1	1	3	3	9	11	14	4	13	6	9	7	5	1	1
White { M.	45	1	2	2	5	6	6	2	9	2	6	6	2	1
{ F.	21	.....	1	.....	1	.....	2	3	4	1	3	3	1	1	3	.....	.....
Colored { M.	11	1	.....	.....	.....	.....	1	2	2	1	1	1	2	.....	.....	.....	.....
{ F.	3	.....	.....	.....	.....	1	1	.....	2	.....	.....	.....	.....	.....	.....	.....	.....
Leprosy Total..	16	3	3	3	3	2	1	2	2
White { M.	7	.....	2	.....	.....	.....	2	.....	.....	.....	3	1	.....	1	.....	1	.....
{ F.	6	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Colored { M.	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	1	.....
{ F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Leucoeythemia Total..	122	4	4	3	11	7	12	33	15	14	14	13	3
White { M.	50	.....	4	1	2	.....	7	5	6	6	2	7	8	8	1	.....	.....
{ F.	65	.....	.....	2	.....	.....	2	2	4	26	12	7	5	5	2	.....	.....
Colored { M.	4	.....	.....	1	.....	.....	1	.....	1	1	.....	.....	1	.....	.....	.....	.....
{ F.	3	.....	.....	1	.....	.....	1	.....	1	.....	1	.....	.....	.....	.....	.....	.....
Lightning Total..	300	2	5	6	3	4	20	26	76	84	35	23	20	8	6	1	1	1
White { M.	202	1	1	1	2	3	8	11	53	61	27	16	13	8	3	1	1
{ F.	59	1	4	5	.....	1	11	8	14	14	4	3	3	.....	2	.....	.....
Colored { M.	25	.....	.....	.....	1	.....	1	5	5	5	4	3	2	.....	1	.....	.....
{ F.	14	.....	.....	.....	.....	.....	.....	2	4	4	.....	.....	2	.....	.....	.....	.....
Malignant pustule Total..	5	3	1	1
White { M.	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....	.....
{ F.	3	.....	.....	.....	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	.....
Colored { M.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
{ F.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mumps Total..	115	24	21	7	10	4	66	18	0	9	4	2	4	1	2
White { M.	49	9	11	5	4	2	31	4	3	4	2	1	2	1	1	.....	.....
{ F.	38	6	5	2	3	2	18	10	4	2	1	1	1	.....	.....	.....	.....
Colored { M.	14	5	2	.....	1	.....	8	1	2	2	.....	.....	1	.....	.....	.....	.....
{ F.	14	4	3	.....	2	.....	9	3	.....	1	1	.....	.....	.....	.....	.....	.....
Noma Total..	137	71	18	12	4	5	110	11	2	1	4	2	2	5
White { M.	69	37	10	7	2	1	57	5	.....	.....	.....	2	.....	1	4	.....	.....
{ F.	63	32	8	3	2	4	49	5	.....	2	1	2	2	1	1	.....	.....
Colored { M.	4	2	.....	1	.....	.....	3	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
{ F.	1	.....	.....	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rickets Total..	162	48	38	29	13	8	136	12	9	1	2	1	1
White { M.	60	22	11	8	5	3	49	5	3	1	1	.....	.....	.....	1	.....	.....
{ F.	47	15	10	4	5	3	37	5	3	.....	1	.....	1	.....	.....	.....	.....
Colored { M.	28	9	8	8	1	.....	26	1	1	.....	.....	.....	.....	.....	.....	.....	.....
{ F.	27	2	9	9	2	2	24	1	2	.....	.....	.....	.....	.....	.....	.....	.....
Typhlitis Total..	59	2	3	2	7	9	12	7	6	7	4	6	1
White { M.	38	1	1	.....	.....	.....	2	6	8	5	5	7	.....	5	.....	.....	.....
{ F.	18	1	1	.....	.....	1	3	3	3	2	1	.....	4	1	1	.....	.....
Colored { M.	2	.....	1	.....	.....	1	2	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
{ F.	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vomiting in pregnancy Total..	5	3	2
White { M.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
{ F.	4	.....	.....	.....	.....	.....	.....	.....	.....	2	2	.....	.....	.....	.....	.....	.....
Colored { M.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
{ F.	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....

HYDROPHOBIA.

The total number of deaths reported as due to hydrophobia during the census year was 80.

The relative proportion of deaths attributed to this cause in different parts of the country is shown by the following cartogram (fig. 119). It will be seen that the greatest proportion of deaths occurred in the Gulf Coast region and in the region of the Western plains.

FIG. 119.—DEATHS FROM HYDROPHOBIA PER 1000 DEATHS FROM KNOWN CAUSES. IN 6 SHADES.



According to the distribution by months, the greatest proportion of deaths from hydrophobia occurred in August, viz, 16.2, followed by April and June with 11.2 each, and January with 10.0 per 100 of all deaths from this cause. The lowest proportions were 2.5 for December and 3.7 for March.

TABLE 141.—SHOWING FOR GRAND GROUPS THE NUMBER OF DEATHS FROM HYDROPHOBIA, AND THE PROPORTION OF DEATHS FROM HYDROPHOBIA IN 1000 DEATHS FROM KNOWN CAUSES.

Grand Groups.	Deaths from hy- drophobia.	Per 1000 deaths from known causes.	Grand Groups.	Deaths from hy- drophobia.	Per 1000 deaths from known causes.			
1. North Atlantic Coast region	4	0.09	15. Central region, plains and prairies...	Ind.....3	3	0.08		
2. Middle Atlantic Coast region	2	0.02		Ohio.....3				
3. South Atlantic Coast region	3	0.22		Ky.....4	2	0.00		
4. Gulf Coast region	7	0.50		Tenn.....4				
5. Northeastern Hills and Plateaus	1	0.04	16. The Prairie region.....	Wis.....3	}	}		
6. Central Appalachian region	3	0.09		Ill.....3				
7. Region of the Great Northern Lakes. {	N. Y.....4	0.36		Iowa.....2	}	2	0.08	
	Balance.....			12				Dak.....1
8. The Interior Plateau.....	N. Y.....5	2		0.09				Mo.....3
	Pa.....2	7		0.17				Minn.....2
	N. C.....2	0.10		Kans.....1	}	1	0.06	
	Va.....2			Nebr.....1				
9. Southern Central Appalachian region			17. Missouri River Belt.....		1	0.08		
10. The Ohio River Belt.....	2	0.06	18. Region of the Western Plains.....		2	0.44		
11. Southern Interior Plateau	7	0.15	19. Heavily-timbered region of the North- west.	Mich.....2	}	}		
12. South Mississippi River Belt.....	3	0.28		Minn.....3				
13. North Mississippi River Belt	1	0.03		Wis.....4				
14. Southwest Central region	12	0.28	20. Cordilleran region.....					
			21. Pacific Coast region.....		1	0.11		

LIGHTNING.

The total number of deaths reported as caused by lightning was 300. From the following table and cartogram, which show the geographical distribution of this cause of death, it will be seen that it was most frequent throughout the belt extending from the northern part of Minnesota and Wisconsin to the southeastern portion of Arizona, including the heavily-timbered Northwest, the Prairie region, and the Western plains. Over three-fourths of all deaths from lightning occurred during the months of May, June, July, and August, the highest percentage being in July, viz, 25.6:

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TABLE 142.—SHOWING FOR GRAND GROUPS THE NUMBER OF DEATHS FROM LIGHTNING, AND THE PROPORTION OF DEATHS FROM LIGHTNING IN 1000 DEATHS FROM KNOWN CAUSES.

Grand Groups.	Deaths from lightning.	Per 1000 deaths from known causes.	Grand Groups.	Deaths from lightning.	Per 1000 deaths from known causes.	
1. North Atlantic Coast region	3	0.07	15. Central region, plains and prairies ...	Ind 8	15	0.40
2. Middle Atlantic Coast region	9	0.10		Ohio 3		
3. South Atlantic Coast region	6	0.45		Ky 4	10	0.48
4. Gulf Coast region	10	0.64		Tenn 4		
5. Northeastern Hills and Plateaus	11	0.43	16. The Prairie region	Wis 3	27	0.90
6. Central Appalachian region	9	0.28		Ill 3		
7. Region of the Great Northern Lakes. {	N. Y. 4	0.10		Iowa 2		
	Balance 8	0.24		Dak 1	33	1.32
8. The Interior Plateau	N. Y. 5	0.40		Mo 3		
	Pa. 2	0.24		Minn 2		
	N. C. 2	0.33		Kans 1	23	1.40
Va. 2	Nebr 1					
9. Southern Central Appalachian region	12	0.40	17. Missouri River Belt		7	0.60
10. The Ohio River Belt	11	0.32	18. Region of the Western Plains		10	2.24
11. Southern Interior Plateau	18	0.40	19. Heavily-timbered region of the North-west. {	Mich 2	4	0.41
12. South Mississippi River Belt	3	0.28		Minn 3		
13. North Mississippi River Belt	12	0.41		Wis 4			11	3.94
14. Southwest Central region	12	0.28	20. Cordilleran region		9	0.80
			21. Pacific Coast region			

FIG. 120.—DEATHS FROM LIGHTNING PER 1000 DEATHS FROM KNOWN CAUSES. IN 6 SHADES.

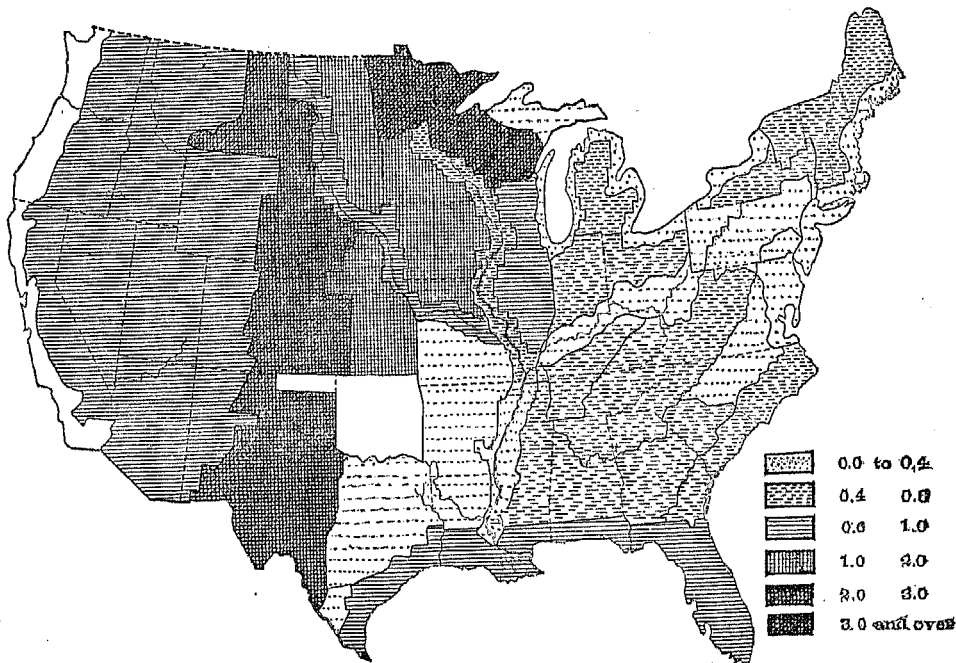


TABLE 143.—SHOWING THE NUMBER OF DEATHS FROM SPECIFIED CAUSES DURING THE CENSUS YEAR, WITH DISTINCTION OF MONTHS.

Causes of death.	Total	June, 1879.	July, 1879.	August, 1879.	September, 1879.	October, 1879.	November, 1879.	December, 1879.	January, 1880.	February, 1880.	March, 1880.	April, 1880.	May, 1880.
Frozen	133						6	60	23	25	12	5	2
Hydrophobia	80	9	7	13	5	7	6	2	8	6	3	9	5
Lightning	300	52	77	45	10	10		5			8	27	66
Mumps	115	6	6	5	8	6	4	7	14	15	10	18	16
Noma	137	14	6	22	16	10	18	3	8	8	8	10	10
Typhlitis	59	3	8	9	2	4	7		7	2	4	4	9

TABLE 144.—SHOWING FOR EACH MONTH THE PROPORTION IN 100 DEATHS FROM SPECIFIED CAUSES TO TOTAL NUMBER OF DEATHS FROM CORRESPONDING CAUSES DURING THE CENSUS YEAR.

Causes of death.	Total.	June, 1879.	July, 1879.	August, 1879.	September, 1879.	October, 1879.	November, 1879.	December, 1879.	January, 1880.	February, 1880.	March, 1880.	April, 1880.	May, 1880.
Frozen	133						4.5	45.1	17.2	18.7	9.0	3.7	1.5
Hydrophobia	80	11.2	8.7	10.2	6.2	8.7	7.5	2.5	10.0	7.5	3.7	11.2	6.2
Lightning	300	17.3	25.0	15.0	3.3	3.3		1.6			2.6	9.0	22.0
Mumps	115	5.2	5.2	4.8	6.9	5.2	3.4	6.0	12.1	13.0	8.6	15.6	13.8
Noma	137	10.2	4.3	16.0	11.6	11.6	11.0	2.1	5.8	5.8	5.8	7.2	7.2
Typhlitis	59	5.0	13.8	15.2	3.3	6.7	11.8		11.8	3.3	6.7	6.7	15.2

SECTION IX.—MORBIDITY OR SICK RATES.

An attempt has been made in this census to obtain, upon the schedules for the living population, the number of those who were, on the 1st day of June, so sick or disabled as to be unable to pursue their ordinary occupations. This is the first experiment of this kind which has been made in this country, but similar attempts have been made in the censuses of Ireland and the Australian colonies. Owing to want of clerical force, it has not been found possible to compile the data relating to this subject for all the states and territories. A preliminary examination of the schedules seemed to indicate that the returns of sick were too imperfect and inaccurate to permit of drawing any conclusions from their compilation. A subsequent examination showed that they were really more complete than had been supposed, and the data have been compiled for portions of the country sufficient to give a fair sample for different regions.

The following table shows the result of these compilations. It will be seen from this table that, for the total population over 15 years of age, which is the only portion to which it seemed worth while to apply this inquiry, the number found sick out of every 1000 living varied from 7.7 to 22.7 for males, and from 8.1 to 17.5 for females, the mean being for males 13.41, and for females 12.15, or, for the total population, 12.75 per 1000:

TABLE 145.—SHOWING FOR CERTAIN STATE GROUPS THE TOTAL NUMBER OF SICK, AND THE PROPORTIONS OF SICK OVER 15 YEARS OF AGE AND OF CERTAIN AGE GROUPS IN 1000 OF POPULATION OF CORRESPONDING AGES.

States and State Groups.	Total number of sick.		Proportion of sick over 15 years of age in 1000 of population of same age.		PROPORTION OF SICK TO 1000 OF POPULATION OF CORRESPONDING AGES.											
					15-25.		25-35.		35-45.		45-55.		55-65.		65 and over.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Totals	135,338	122,347	13.41	12.15	6.9	6.8	8.6	9.7	12.2	11.5	16.8	14.4	25.5	20.4	44.5	35.3
Alabama:																
Group 1.....	422	309	22.4	14.1	14.1	6.0	13.1	10.0	22.6	14.0	27.9	15.1	33.8	28.1	50.2	67.1
Group 2.....	2,243	1,985	10.7	16.7	10.1	9.0	13.0	12.9	20.1	16.6	25.9	23.8	37.4	30.9	60.6	62.6
Group 3.....	4,539	4,147	16.6	14.4	8.5	7.2	10.9	11.4	21.8	14.2	21.0	19.6	27.8	27.7	58.7	58.6
California:																
Group 1.....	3,003	937	17.1	10.9	7.5	6.5	10.1	8.3	14.4	11.3	23.4	15.2	37.7	22.1	73.7	38.7
Group 2.....	4,114	2,038	16.4	11.4	8.1	6.2	9.4	8.1	15.9	11.6	23.9	15.2	41.3	28.0	64.8	49.0
Connecticut:																
Group 1.....	2,426	2,334	15.6	14.2	7.5	7.3	8.9	11.5	11.3	11.8	18.4	14.5	26.7	20.3	56.0	40.5
Group 2.....	1,471	1,597	15.1	15.3	7.6	8.9	8.6	11.3	11.3	13.9	14.8	14.7	25.4	17.7	51.5	42.7
Delaware	625	612	10.5	10.7	5.3	6.2	7.7	9.1	9.7	10.3	13.3	13.1	18.9	16.5	34.1	27.0
Georgia:																
Group 1.....	623	760	11.7	14.7	6.9	9.1	8.8	13.8	13.2	15.4	15.5	18.1	20.0	24.4	37.1	37.3
Group 2.....	1,796	2,332	13.5	17.5	6.6	9.4	9.3	15.6	13.0	19.0	20.1	23.7	28.5	28.6	48.2	48.1
Group 3.....	2,593	3,246	7.7	9.7	4.3	5.8	5.6	8.7	6.9	10.3	10.4	13.1	15.2	16.4	28.0	25.8
Illinois:																
Group 1.....	2,221	1,983	8.7	8.1	5.5	5.5	5.2	7.2	8.1	8.9	13.7	10.7	22.2	14.3	25.2	16.9
Group 2.....	2,633	2,345	12.1	11.4	6.4	6.3	8.6	11.1	13.2	13.3	17.1	14.7	22.4	18.9	35.1	26.3
Group 3.....	7,603	7,169	10.0	10.3	5.3	6.1	7.3	9.1	10.4	11.1	13.4	13.2	19.8	17.8	29.2	24.0
Maine:																
Group 1.....	3,199	2,926	19.4	16.7	8.7	8.6	10.6	13.3	13.5	14.0	19.6	17.1	30.4	22.0	61.5	51.3
Group 2.....	1,314	1,152	16.3	15.0	6.7	8.8	7.0	10.5	11.8	12.4	14.7	14.7	26.8	18.0	58.8	43.5
Maryland:																
Group 1.....	3,639	3,565	12.2	11.6	6.3	6.0	7.6	9.5	11.2	11.5	16.0	14.2	25.4	21.0	41.4	32.5
Group 2.....	523	462	10.2	8.8	5.9	4.0	6.8	7.0	8.8	8.0	9.8	11.2	18.6	16.2	35.9	25.7

MORBIDITY OR SICK RATES.

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TABLE 145.—SHOWING FOR CERTAIN STATE GROUPS THE TOTAL NUMBER OF SICK, AND THE PROPORTIONS OF SICK OVER 15 YEARS OF AGE AND OF CERTAIN AGE GROUPS IN 1000 OF POPULATION OF CORRESPONDING AGES—Continued.

States and State Groups.	Total number of sick.		Proportion of sick over 15 years of age in 1000 of population of same age.		PROPORTION OF SICK TO 1000 OF POPULATION OF CORRESPONDING AGES.											
					15-25.		25-35.		35-45.		45-55.		55-65.		65 and over.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Michigan:																
Group 1.....	5,308	3,519	16.5	12.3	9.3	7.7	11.7	9.9	16.2	12.3	21.9	14.8	31.9	18.8	54.8	33.5
Group 2.....	6,211	4,654	18.0	14.8	9.3	8.6	12.2	11.9	18.9	14.1	21.4	16.7	30.9	24.8	52.7	42.0
New Hampshire:																
Group 1.....	1,547	1,672	15.8	15.4	8.3	8.8	8.6	11.7	10.3	12.0	10.0	14.5	22.9	18.8	50.3	40.5
Group 2.....	776	831	15.3	17.0	8.0	8.4	6.6	13.3	10.9	14.4	13.6	13.8	20.3	17.4	49.8	46.0
New Jersey:																
Group 1.....	4,145	3,600	12.9	10.5	6.7	6.0	8.4	8.5	11.0	9.8	16.1	13.0	24.9	16.6	42.3	28.7
Group 2.....	1,628	1,350	13.3	10.2	7.4	6.1	8.3	8.5	11.6	8.8	16.3	11.6	21.3	17.2	43.0	25.3
New York:																
Group 1.....	9,364	7,777	11.1	8.5	5.9	4.3	7.1	6.3	10.0	8.4	15.0	11.4	26.1	17.6	39.4	26.4
Group 2.....	1,091	1,147	9.3	10.0	5.9	7.0	5.9	8.8	8.1	8.7	9.5	9.5	16.5	14.2	22.8	23.2
Group 3.....	1,227	1,076	11.4	9.8	5.2	5.2	6.9	7.4	8.3	7.7	11.6	11.7	21.5	15.2	38.3	26.7
Group 4.....	3,921	3,772	13.2	12.2	6.9	7.1	8.5	10.2	10.7	10.2	15.0	14.0	23.7	20.2	36.8	30.2
Group 5.....	8,394	7,968	12.9	11.6	5.7	6.6	6.7	8.6	10.0	10.1	14.3	12.7	24.0	17.7	40.3	30.4
North Carolina:																
Group 1.....	2,014	2,487	13.5	16.5	7.4	10.4	9.0	13.0	14.1	17.2	16.6	19.3	26.6	34.1	44.9	41.8
Group 2.....	3,213	4,099	11.8	15.4	6.9	9.3	8.4	12.7	11.2	15.8	13.0	18.6	20.5	25.2	42.6	40.4
Group 3.....	1,233	1,332	16.1	16.4	7.7	7.2	12.2	13.1	13.8	19.3	19.5	22.8	35.5	31.0	55.9	45.5
Pennsylvania:																
Group 1.....	8,354	6,833	14.2	11.7	7.2	6.8	9.4	9.1	13.1	11.2	18.1	13.0	26.4	19.7	45.0	33.8
Group 2.....	13,062	12,077	13.3	11.2	6.9	6.4	8.5	8.7	11.2	10.2	17.0	13.2	26.5	20.0	46.2	32.0
Rhode Island.....	1,600	1,439	14.8	11.9	8.6	7.7	7.5	10.2	12.6	8.8	17.7	12.5	28.7	20.0	48.0	29.1
South Carolina:																
Group 1.....	1,603	1,645	16.6	15.9	8.0	7.7	10.2	10.7	16.3	12.8	19.8	18.4	30.6	30.3	59.7	71.6
Group 2.....	191	145	21.5	14.2	12.5	7.5	11.6	8.0	31.0	19.1	26.6	17.3	36.5	21.2	68.0	46.5
Group 3.....	3,774	3,669	17.7	16.8	8.6	8.6	11.7	12.1	20.8	15.4	27.8	20.1	28.8	30.8	62.3	72.8
Vermont.....	1,805	1,871	13.9	14.3	7.1	8.1	8.2	11.2	9.7	12.3	13.0	14.2	20.1	19.9	41.2	33.0
Virginia:																
Group 1.....	1,207	1,320	11.1	12.7	4.9	5.7	7.5	11.7	11.4	12.4	15.9	17.0	20.8	24.5	36.7	34.2
Group 2.....	2,391	2,639	16.8	11.5	5.9	6.6	7.4	9.4	8.2	11.2	11.9	13.5	18.0	18.7	38.9	33.6
Group 3.....	2,250	2,418	12.3	12.7	6.0	6.2	8.0	10.6	11.9	13.6	15.0	15.2	21.2	22.7	43.3	37.6
West Virginia:																
Group 1.....	1,630	1,544	14.7	14.4	7.4	7.0	10.7	11.1	14.5	16.6	19.5	19.3	27.4	23.7	47.3	42.9
Group 2.....	1,700	1,509	16.2	13.8	8.2	11.7	11.5	12.1	15.0	14.9	24.8	17.5	32.8	23.5	55.7	37.7

Classifying these statistics by grand groups as far as possible, we obtain the result shown in the following table and diagram:

TABLE 146.—SHOWING FOR CERTAIN GRAND GROUPS, OR PORTIONS THEREOF, WITH DISTINCTION OF SEX, THE POPULATION OVER 15 YEARS OF AGE, THE NUMBER OF SICK OVER 15 YEARS OF AGE, AND THE PROPORTION PER 1000 OF SICK TO POPULATION.

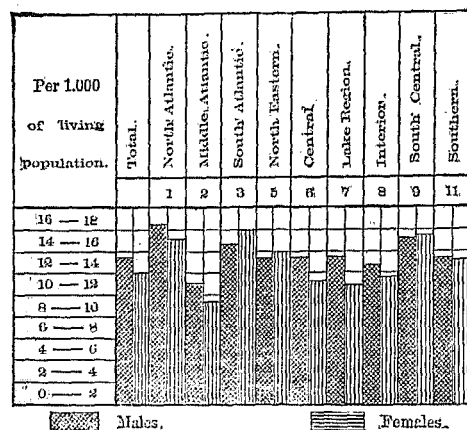
Grand Groups.	POPULATION.			SICK.			PER 1000.		
	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.
Total.....	13,998,301	6,874,638	7,123,663	178,246	91,356	86,890	12.73	13.28	12.19
1. North Atlantic Coast region.....	935,219	452,318	482,901	14,764	7,584	7,180	15.78	16.76	14.86
2. Middle Atlantic Coast region.....	2,761,848	1,344,025	1,417,823	29,667	15,744	13,923	10.74	11.70	9.82
3. South Atlantic Coast region.....	495,684	238,652	257,032	7,537	3,411	4,126	15.20	14.29	16.05
5. Northeastern Hills and Plateaus.....	815,282	406,925	408,357	11,337	5,603	5,734	13.90	13.76	14.04
6. Central Appalachian region.....	1,462,806	733,287	729,519	17,998	9,910	8,088	12.30	13.51	11.08
7. Region of the Great Northern Lakes.....	1,407,869	729,119	678,750	17,129	9,591	7,538	12.16	13.15	11.10
8. The Interior Plateau.....	3,693,291	1,799,367	1,893,924	45,598	23,029	22,569	12.34	12.79	11.91
9. Southern Central Appalachian region.....	1,054,922	511,329	543,593	15,947	7,650	8,297	15.11	14.96	15.26
11. Southern Interior Plateau.....	1,371,680	659,025	712,655	18,269	8,894	9,435	13.32	13.40	13.24

In this table Grand Groups 3, 6, and 8, are represented *in toto*; while in Grand Groups 1, 2, 5, 7, 9, and 11, only certain state groups are included, viz:

Grand Group 1: Connecticut, 1; Maine, 1; New Hampshire, 1; Rhode Island.

Grand Group 2: Delaware; Maryland, 1; New Jersey, 1; New York, 1; Virginia, 1.
 Grand Group 5: Connecticut, 2; Maine, 2; New Hampshire, 2; New York, 2; Vermont.
 Grand Group 7: Illinois, 1; Michigan, 1; New York, 4.
 Grand Group 9: Alabama, 2; Georgia, 2; North Carolina, 3; South Carolina, 2; Virginia, 3; West Virginia, 1.
 Grand Group 11: Alabama, 3; Georgia, 3; South Carolina, 3.

FIG. 121.—SICK OVER 15 YEARS OF AGE IN GRAND GROUPS, OR IN PORTIONS THEREOF, PER 1000 OF LIVING POPULATION OVER 15 YEARS OF AGE.



The first question which arises on examining these figures is as to how far they actually represent the proportion of sick or disabled existing in the living population.

From the results of data derived from mutual-benefit societies in England it has been usual to estimate that for every case of death in a community there are two persons constantly sick; that is to say, that there is an average of two years' sickness to each death; or that if the annual death rate is 18 per 1000 the average number constantly sick is about 36 per 1000 of living population, and this seemed to be borne out by the proportion of those taken on sick report in the army. Thus, for the 5 years 1878-'82, inclusive, the proportion constantly on sick report per 1000 of mean strength in the United States army was, for the white troops 43.9, and for the colored troops 41.6, or for the whole an annual mean of 43.7 per 1000 of mean strength. This proportion is made up in the white troops of 34.6 of sick and 9.3 of those suffering from accidents and injuries. These figures, however, when applied to the population in civil life, would give entirely too great an estimate as to the amount of sickness. According to a paper by Dr. Cl. T. Campbell,^(a) in the *Popular Science Monthly* for February, 1885, the proportion of sickness in nearly one-half million males belonging to the society of Odd Fellows in the United States and British America for the 7 years 1875-'81 was 4.3 to each person, or a mean of 11.77 per 1000 each day. The data obtained from the Irish censuses of 1851, 1861, and 1871 showed that for every 1000 of the living population there were sick at the date of the census from 13.1 to 15.9 persons, and the statistics of disease as furnished by the census return of 1881, show that, exclusive of lunatics, blind, and deaf and dumb, there were returned as sick on the night of the census 7.75 per 1000 of the population.

In the general report on the census of Tasmania in 1881, page xxxiv, the following table is given, showing the relative proportions of disabling sickness and accidents in a given day per 1000 of living population for certain countries:

TABLE 147.—SHOWING FOR CERTAIN COUNTRIES THE PROPORTIONS OF SICKNESS AND ACCIDENTS PER DAY PER 1000 OF LIVING POPULATION.

Age periods.	SICKNESS.			ACCIDENTS.	
	Tasmania.	Victoria.	South Australia.	Tasmania.	Victoria.
All ages	15.13	11.81	13.09	1.94	1.80
0-15 years	5.42	3.89	.....	0.70	0.44
15-30 years	9.20	8.73	.....	1.44	1.57
30-50 years	15.60	15.99	.....	1.84	3.06
50-70 years	40.10	41.90	.....	5.52	5.15
70 and over	96.27	111.48	.....	9.08	6.62

Mr. Dutton, actuary to the Registry of Friendly Societies in England, estimates that the average number of days' sickness per member of such societies per annum is very nearly $1\frac{1}{2}$ weeks.

^a CAMPBELL, CL. T.: "Sick Rates and Death Rates," in *Popular Science Monthly*, February, 1885, Vol. XXVI, page 527.

Taking the members of the principal societies known as the Manchester Community of Odd Fellows, his calculations of the average number of days' sickness at different ages is shown in the following table:

TABLE 148.—SHOWING, WITH DISTINCTION OF SEX, THE NUMBER OF WEEKS' SICKNESS PER ANNUM AT CERTAIN AGES, AND THE AVERAGE PERIOD OF SICKNESS PER INDIVIDUAL PER ANNUM, ACCORDING TO EXPERIENCE OF THE MANCHESTER COMMUNITY.

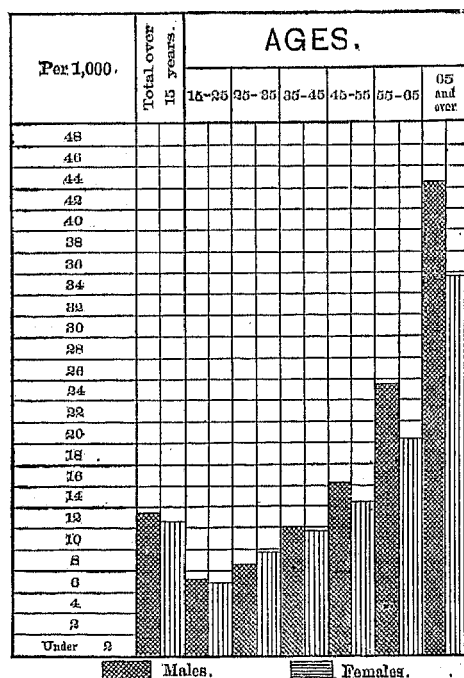
Age periods.	MALES.		FEMALES.	
	Weeks' sickness per annum.	Average period of sickness per individual per annum (in weeks).	Weeks' sickness per annum.	Average period of sickness per individual per annum (in weeks).
All ages from 15-65	9,692,505	1.314	10,592,701	1.334
15-20 years.....	844,428	0.600	851,701	0.666
20-25 years.....	820,183	0.737	896,085	0.737
25-45 years.....	3,224,134	0.995	3,476,146	0.995
45-65 years.....	4,803,760	2.736	5,368,220	2.751

It is to be remembered that the census is taken at a time of year when there is probably the least amount of sickness and disability among adults, and also that in the army a large number of soldiers are taken on sick report for comparatively trivial ailments, such as would not be considered to disable a person in civil life.

In the state of Rhode Island the census was taken under the direction of a skilled superintendent, Dr. E. M. Snow, who had so small a territory to deal with that he could, to a considerable extent, make use of his personal knowledge in selecting the enumerators, and it is therefore to be presumed that in this state the population schedules have been filled out with the greatest accuracy and completeness. In this state, putting aside those reported as blind, deaf and dumb, insane, crippled, etc., as has been done in all these computations, we find that, out of a total population of 276,528, 3,039 were reported as sick and disabled, being in a ratio of 10.98 per 1000; and the proportion of sick to the living population over 15 years of age was, males, 14.81, females, 11.92. It is probable, therefore, that the above tables, although derived from incomplete data, do represent to a very considerable extent the different proportions of sickness occurring in males and females, and in certain groups of ages, and that this is probably as reliable a table of this kind, based on a large number of observations, as any which have yet been published.

The following diagram shows the relations to sex and age of the proportion of sickness reported:

FIG. 122.—NUMBER OF SICK, WITH DISTINCTION OF SEX, PER 1000 OF POPULATION OVER 15 YEARS OF AGE.



It will be seen that the proportion of those sick is almost constantly higher in males than in females; it is highest in Alabama, in South Carolina, and in Maine, and the proportion increases steadily with advancing age.

SECTION X.—BIRTHS, BIRTH RATES, AND LIFE TABLES.

The total number of children under 1 year of age reported by the enumerators as living on the day of the census, plus the number of children reported as born and also dying within the census year, is 1,577,173, of which 806,866 were males and 770,307 females. Putting aside the effects of migration into and out of the country, these figures would, if accurate, represent the total number of births which occurred in the United States during the year. Unfortunately they are not accurate. In the first place, the number of children reported as living under 1 year of age is too small, owing to omissions and to the tendency to report ages in round numbers, causing many infants of 10 or 11 months of age to be reported as 1 year old. The reports of the number dying are also defective, as has been previously explained. The result is that the birth rate, as computed from these figures, is too low. This birth rate is 31.4 per 1000 of the aggregate living population.

No state or city in the United States has an accurate registration of births. Probably the most complete registration in any state is Massachusetts, in which for the calendar year 1880 the registration report gives a birth rate of 24.8 per 1000, while the census figures for the census year give a birth rate of 24 per 1000.

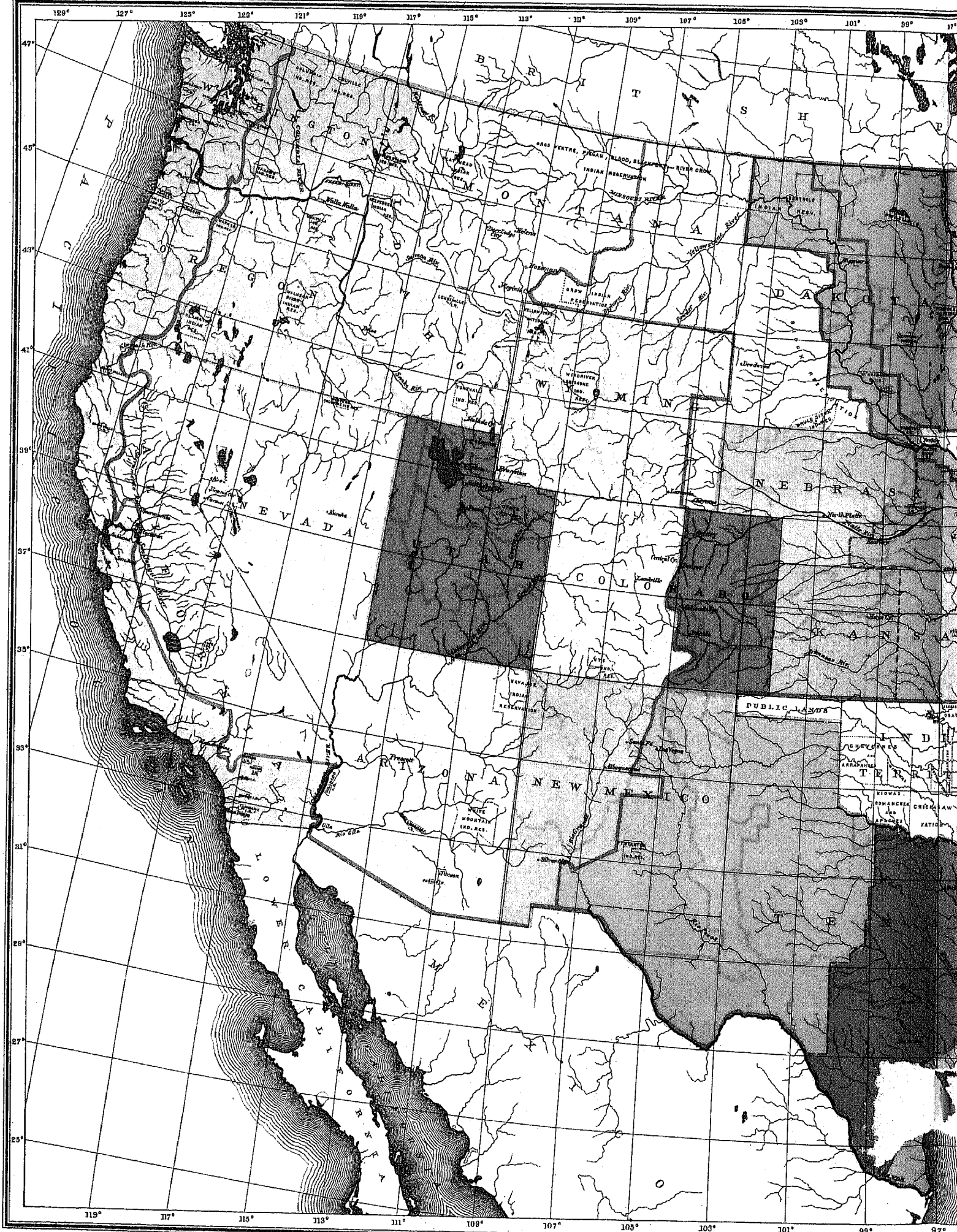
The total living population of the United States in 1870 was 38,558,371; in 1880, 50,155,783; showing a gain of 11,597,412, or a mean annual increase of 1,159,741. Of this, 281,219 may be taken as due to immigration, the total number of immigrants for the 10 years being 2,812,191 (see page xix, Part I of this report). This would make the mean annual increase due to excess of births over deaths to be 878,522. If, now, we take the mean annual death rate for the 10 years as having been 18 per 1000 of living population, and the mean population as being 44,000,000, the mean annual number of deaths would be 792,000, which, added to the excess of births over deaths, stated above, viz, 878,522, would give the mean annual number of births as 1,670,522, or 37.9 per 1000 of the assumed mean population. The true average annual birth rate is somewhat less than this, for the enumeration of the living population, more especially of the colored race in the southern states, was more defective in the Ninth than in the Tenth Census, and hence the mean annual rate of increase was less than that above stated. Probably the mean annual birth rate for the whole United States has been about 36 per 1000, in which case the birth rate, calculated from the returns, viz, 31.4, should be increased about 15 per cent. to give the true figure.

For the period 1876-'80 the mean annual birth rates of some European countries were as follows, viz: England and Wales, 35.4 per 1000; German empire, 39.3; Austria, 39.1; Denmark, 31.9; Sweden, 30.2; Switzerland, 31.3; and Belgium, 32.0.

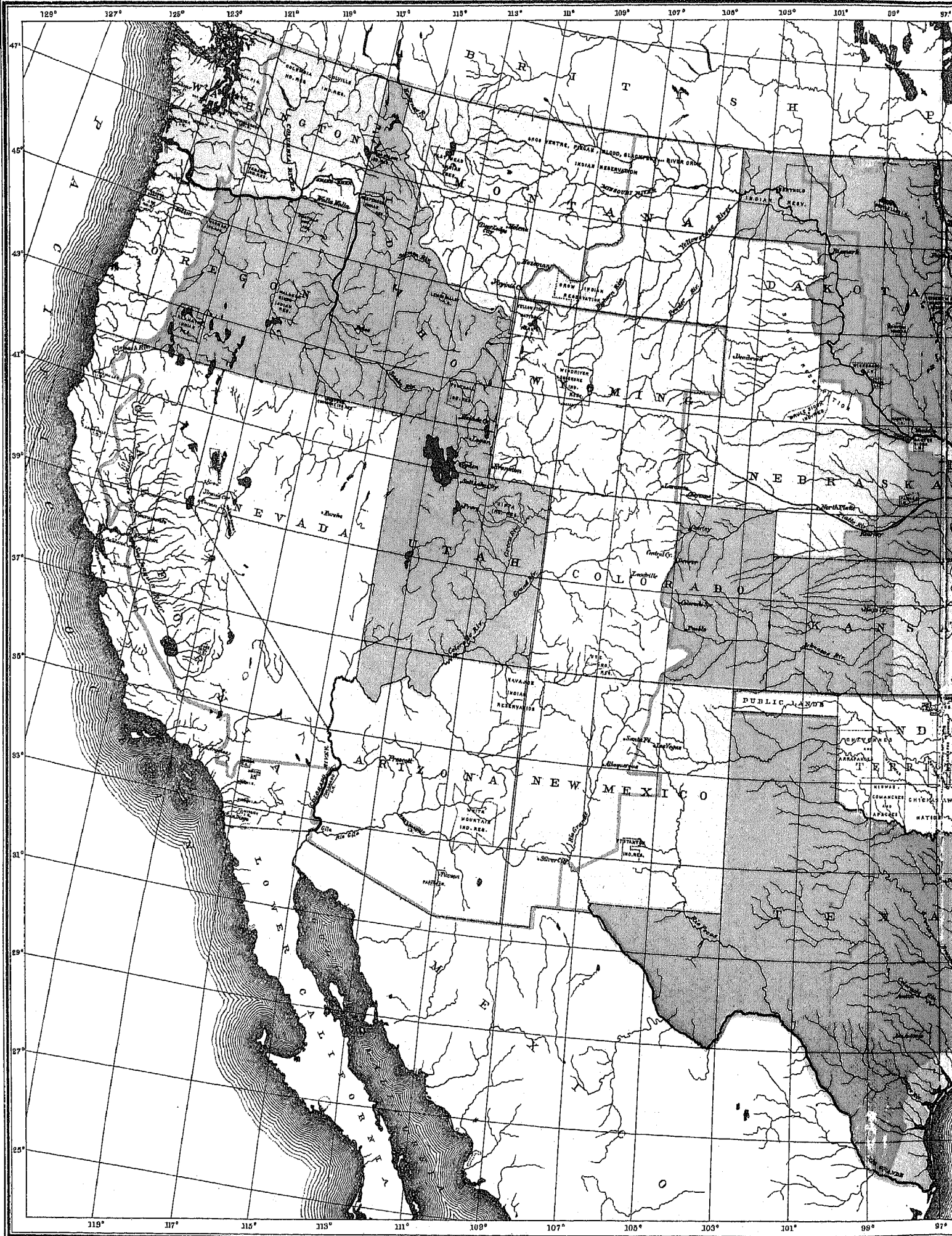
For the year 1880 the birth rate of England and Wales was 34.2 per 1000 persons living, varying from less than 30 to 38.5 in different localities. In the United States, according to the figures given, the rate varies from 19.1 in New Hampshire to 42.7 in Arkansas (see table 151).

Maps Nos. 19 and 20 indicate the varying proportions of the birth rate in different parts of the United States as indicated by the census returns. The first of these indicates the variations in the birth rate calculated in the usual manner, that is, per 1000 of the total living population. From this it will be seen that the birth rate is highest in the southern states and in the Northwest, and lowest in the northeastern states and in Montana, the western portions of Dakota and Colorado, in Arizona, Nevada, and the eastern part of California. This method of computation does not take into account the varying proportions of the two sexes existing in different portions of the country, a circumstance which, in the United States, and especially in the extreme West, has a considerable influence upon the ratios thus calculated.

Map No. 20 has been prepared from Table LIV of this volume, showing the proportions of the birth rate per 1000 women between the ages of 15 and 49 living in the various regions. The differences in birth rates indicated by this map are much greater than those shown on Map No. 19. The general distribution east of the meridian of 100° is much the same as when the ratios are calculated for the total population, but in the extreme western portion of the country a comparison of the two maps shows very clearly that the reason for the lower birth rate in that region indicated on Map No. 19 is mainly due to the smaller number of women of the child-bearing age in the living population of that region.



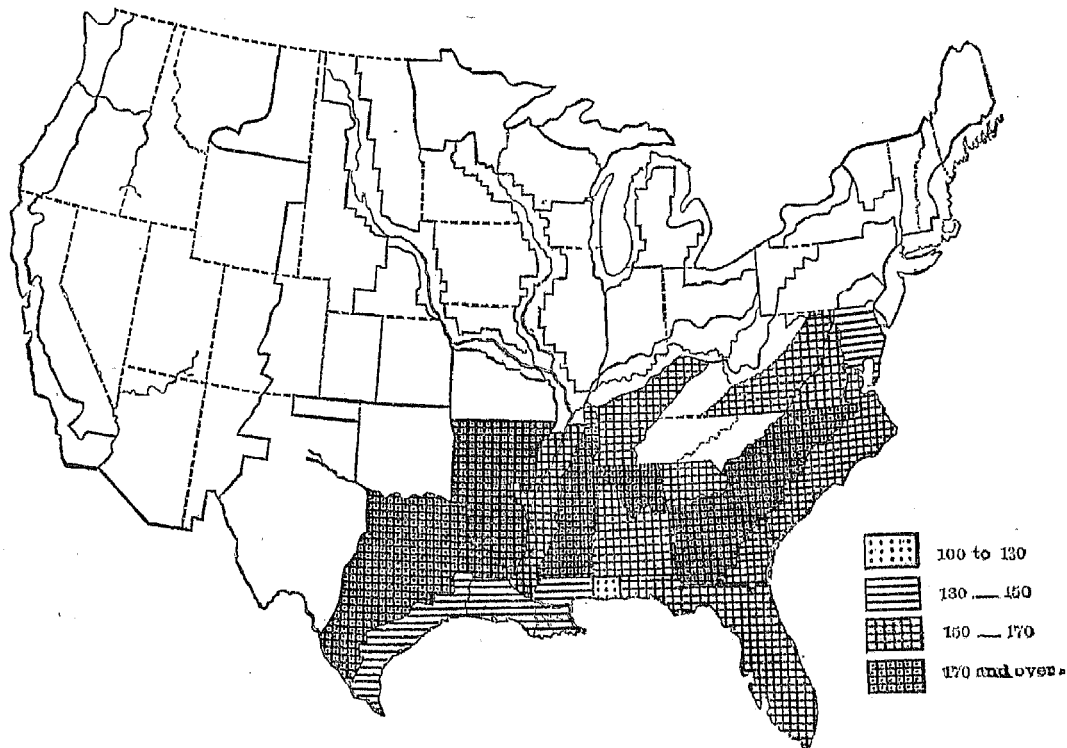






The following cartogram shows for the southern portion of the United States the distribution of the birth rate in relation to the number of colored women living between the ages of 15 and 49:

FIG. 123.—BIRTH RATE PER 1000 COLORED WOMEN BETWEEN THE AGES OF 15 AND 49. IN 4 SHADES.



Of the 1,577,173 births reported during the census year, 806,866 were males and 770,307 females, or 1,047 males to each 1000 females. The average number of male births to 1000 female births in several countries for the 10 years 1870-79, or for those years for which the data are available, were: England and Wales, 1,039; Scotland, 1,057; Ireland, 1,056; Belgium, 1,059; France, 1,064; German empire, 1,062; Italy, 1,071; Austria, 1,068; Switzerland, 1,063.

TABLE 149.—SHOWING THE NUMBER OF FEMALE BIRTHS TO 100,000 MALE BIRTHS IN THE UNITED STATES AND IN EACH STATE AND TERRITORY.

States and Territories.	Number of female births to 100,000 male births.	States and Territories.	Number of female births to 100,000 male births.	States and Territories.	Number of female births to 100,000 male births.	States and Territories.	Number of female births to 100,000 male births.
The United States	95,469	Iowa	94,374	New Mexico	95,507	Nebraska	96,924
Colorado	90,244	Minnesota	94,638	Wyoming	95,833	New Jersey	97,179
Vermont	91,207	Texas	94,753	Indiana	95,904	Rhode Island	97,215
Washington territory	92,500	Missouri	94,774	South Carolina	95,931	Mississippi	97,224
California	92,854	New York	94,804	Alabama	95,950	North Carolina	98,061
Michigan	93,088	Illinois	94,839	Kentucky	95,994	Oregon	98,776
Dakota	93,193	West Virginia	95,121	Georgia	96,017	Maine	98,829
Idaho	93,347	Arkansas	95,302	Nevada	96,176	Delaware	99,007
Tennessee	93,367	Kansas	95,353	Ohio	96,287	Louisiana	99,082
Massachusetts	93,581	Pennsylvania	95,549	District of Columbia	96,328	Florida	101,007
New Hampshire	93,584	Connecticut	95,553	Maryland	96,394	Montana	102,288
Wisconsin	93,923	Utah	95,558	Virginia	96,618	Arizona	102,338

TABLE 150.—SHOWING FOR CERTAIN STATES, WITH DISTINCTION OF COLOR, THE NUMBER OF FEMALE BIRTHS TO 100,000 MALE BIRTHS.

States.	NUMBER OF FEMALE BIRTHS TO 100,000 MALE BIRTHS.			States.	NUMBER OF FEMALE BIRTHS TO 100,000 MALE BIRTHS.		
	Total.	White.	Colored.		Total.	White.	Colored.
Alabama	95,956	94,261	97,805	Maryland	96,394	95,813	100,518
Arkansas	95,302	92,406	100,175	Mississippi	97,224	95,628	101,755
Delaware	99,007	97,095	101,007	North Carolina	98,061	92,258	98,027
District of Columbia	96,328	93,643	101,554	South Carolina	95,931	93,367	99,007
Florida	101,007	96,774	101,135	Tennessee	93,367	94,752	94,046
Georgia	96,017	91,036	97,807	Texas	94,753	96,618	90,811
Louisiana	99,082	97,807		Virginia	96,618		

MORTALITY AND VITAL STATISTICS.

The birth rate is greater in the colored than in the whites. In the 10 grand groups in which the distinction of color was made, the birth rate for the whites was 32.0 and for the colored 38.6 per 1000 of aggregate population, or for the whites 127.1 and for the colored 163.8 per 1000 of women between the ages of 15 and 49. The higher birth rate among the colored is in part due to the higher death rate among the colored infants in the earlier months of life, because with the loss of the infant and the consequent cessation of nursing, the probabilities of a fresh pregnancy increase. In these 10 grand groups out of each 1000 infants born, the number which died under three months of age was, for the whites, 66.7, and for the colored, 71.4. The influence of this factor on the birth rate is, however, very small.

The difference between the white and colored birth rate and the infantile death rate is less in the rural districts than in the cities. Taking 23 counties in the South containing cities or large towns, and having an aggregate population of 588,129 whites and 586,038 colored, we find that the birth rates per 1000 of living population were, for the whites, 28.71, and for the colored, 35.08; and the proportion of those born and dying within the census year per 1000 births was, for the whites, 100.01, and for the colored, 140.06. Taking 51 southern counties which contain only very small towns, and having an aggregate population of 542,705 whites and 591,336 colored, the birth rates per 1000 of living population were, for the whites, 34.31, and for the colored, 39.46; and the proportion of those born and dying during the census year per 1000 births was, for the whites, 62.61, and for the colored, 91.0.

TABLE 151.—SHOWING FOR THE STATES AND TERRITORIES THE NUMBER OF BIRTHS, AND THE PROPORTION OF BIRTHS IN 1000 OF AGGREGATE POPULATION.

States and Territories.	Births.	Per 1000 of aggregate population.	States and Territories.	Births.	Per 1000 of aggregate population.	States and Territories.	Births.	Per 1000 of aggregate population.
New Hampshire	6,638	19.1	Idaho	930	28.5	Kentucky	57,491	34.9
Arizona	779	10.3	Delaware	4,209	28.7	Kansas	35,105	35.2
Maine	13,586	20.9	Oregon	5,035	28.8	Virginia	53,594	35.4
Colorado	4,212	21.7	Pennsylvania	126,604	29.4	Louisiana	33,513	35.7
Vermont	7,350	22.1	Washington territory	2,233	29.7	West Virginia	22,474	36.3
Nevada	1,385	22.2	Indiana	60,460	30.0	Nebraska	10,709	36.9
Connecticut	14,027	22.5	Wisconsin	40,239	30.6	North Carolina	52,003	37.2
Montana	884	22.6	District of Columbia	5,454	30.7	Georgia	57,533	37.8
California	20,512	23.7	Illinois	96,042	31.2	Alabama	47,776	37.8
Massachusetts	42,735	24.0	Iowa	50,887	31.3	Tennessee	58,534	38.0
Rhode Island	6,798	24.0	Maryland	29,575	31.6	South Carolina	37,897	38.1
New York	130,622	25.7	Missouri	71,858	33.1	Mississippi	43,273	38.2
Wyoming	504	27.1	Dakota	4,513	33.4	Texas	65,694	41.3
New Jersey	31,109	27.5	New Mexico	4,015	33.6	Utah	6,031	41.6
Michigan	45,843	28.0	Minnesota	26,428	33.8	Arkansas	34,258	42.7
Ohio	90,983	28.4	Florida	9,379	34.8			

TABLE 152.—SHOWING FOR THE STATES AND TERRITORIES THE NUMBER OF BIRTHS, AND THE PROPORTION OF BIRTHS IN 1000 WOMEN BETWEEN THE AGES OF 15 AND 49.

States and Territories.	Births.	Per 1000 women between 15 and 49.	States and Territories.	Births.	Per 1000 women between 15 and 49.	States and Territories.	Births.	Per 1000 women between 15 and 49.
New Hampshire	6,638	71.6	Nevada	1,385	122.2	Wyoming	504	154.7
Maine	13,586	81.1	Indiana	60,460	122.4	Georgia	57,533	156.0
Massachusetts	42,735	82.9	Maryland	29,575	122.8	Kansas	35,105	156.4
Connecticut	14,027	83.2	Illinois	96,042	126.8	Alabama	47,776	156.7
Rhode Island	6,798	86.0	Wisconsin	40,239	131.4	Washington territory	2,233	158.0
Vermont	7,350	88.7	Iowa	50,887	133.0	West Virginia	22,474	158.2
New York	130,622	93.9	Missouri	71,858	138.8	Tennessee	58,534	158.7
District of Columbia	5,454	103.1	New Mexico	4,015	141.5	South Carolina	37,897	162.6
New Jersey	31,109	103.3	Oregon	5,035	145.0	Mississippi	43,273	165.2
California	20,512	110.7	Kentucky	57,491	145.2	Nebraska	10,709	169.0
Ohio	90,983	112.6	Florida	9,379	145.9	Dakota	4,513	171.2
Delaware	4,209	113.2	Virginia	53,594	147.3	Idaho	930	183.3
Colorado	4,212	113.9	Louisiana	33,513	148.5	Texas	65,694	187.4
Arizona	779	114.4	Minnesota	26,428	151.7	Arkansas	34,258	190.0
Michigan	45,843	114.7	Montana	884	153.4	Utah	6,031	198.9
Pennsylvania	126,604	115.1	North Carolina	52,003	154.7			

LIFE TABLES.

The most satisfactory method of comparing the mortality of different localities, periods of time, races, occupations, etc., is by the construction of what are known as life tables. A life table is intended to show what would happen in a stationary population, that is, one in which the births and deaths are equal, and which is unaffected by migrations, if it were placed under the same circumstances as the population from which the data are derived; and the most important part of such a table is that which gives the expectation of life at each age. The preparation for any given locality, race, or occupation, in this country, of a life table which shall accurately represent the tendency to death or the probability of survival at each age is practically impossible, because of the want of accuracy in the necessary data, and because of the irregular migrations of the population. It should be clearly understood that all tables of vital statistics, including data derived from large numbers of people, even when these are obtained by the most accurate census possible, and by the most complete system of registration which can be enforced, give probabilities only, and that scientific accuracy in this field is practically unattainable. Theoretically, it would be necessary, in order to determine the true mortality of the given race, period of time, or occupation, that we should have data relating to a certain number of individuals or a community which must remain the same, so far as migrations are concerned, from the beginning to the end of the inquiry. Impossible as it is to secure this for large communities, it would, even if obtained, be insufficient for scientific accuracy, since this requires that the facts which we group together should be strictly comparable. Take, for example, the question which an ordinary life table is intended to answer: Of 100,000 children born, how many die at each age? A strictly accurate answer to this question could be given only by having the precise dates of birth and of death of each of the 100,000 individuals. Moreover, if we are inquiring into the influences of locality, as, for instance, into the healthfulness of a county in Maine as compared with one in Missouri, it would be necessary that these 100,000 children should have been born on the same day in the respective localities under consideration, since, if born at successive periods of time, even in the same locality, some of them would be subject to meteorological influences, epidemics, etc., which did not affect the others. There is no life table in existence calculated on such data as these, nor is it possible that there should be. Nevertheless, in using large masses of data, the individual errors tend to neutralize each other, and already a large amount of information has been collected with regard to the average duration of human life and some of the circumstances which chiefly affect it, which is of very considerable practical value. Probably the most complete statistics of this character in existence are those contained in the official records of England and of Sweden, yet these have often been severely criticized because of the probabilities of error which arise in their use in attempts to determine the healthfulness of different localities, or the influence of age, sex, conjugal relations, occupation, etc., on the duration of human life. It may at first thought, therefore, seem impossible, from the imperfect data obtainable in the United States, to prepare life tables of any practical value or interest, and, so far as the whole country is concerned, *en masse*, this is true. A life table for the whole United States can be constructed only by making some arbitrary assumption as to the amount of deficiency in the number of deaths reported, and by assuming that this deficiency exists in some definite proportion in the two sexes and throughout the several ages. Even were it possible to prepare a life table for the whole country which should be reasonably accurate, it would be of very little value. The United States includes too many degrees of latitude and longitude, too great varieties of topography, of climate, and of race, to make conclusions drawn from the average expectation of life of its people of much practical value. We want not one, but many such tables, which shall indicate the differences between localities, periods of time, race, etc., as affecting the duration of life of the people. After a careful examination of the data available for the purpose, it has seemed possible to have approximate life tables prepared for certain cities in different parts of the country, and for the states of Massachusetts and New Jersey, which would be comparable with each other, and would give some useful indications as to the relative healthfulness of these several localities, and this has accordingly been done, and the results are given in Table LXIV of this volume.

The method employed in preparing these tables is substantially that of Dr. Farr; the figures used are those actually obtained by the census and from the records of registration of deaths. In calculating a life table, much depends upon the accuracy and completeness of the records for the first year of life, as the mortality deduced from these enters as a factor into all the subsequent calculations. There are deficiencies both in the number of those reported as living under 1 year of age and in the number of those reported as dying under 1 year of age. No attempt has been made to correct these deficiencies. It is assumed that they occur in the same proportion in each locality, and hence that the results are comparable. In calculating the English life tables, Dr. Farr made an elaborate series of corrections of these data, and the corrections are involved in the approximate table prepared by Mr. N. H. Humphreys, in a paper on "The decline in the English death rate", published in the *Journal of the Statistical Society* for 1883, since he assumes that the rate of mortality in each of the first 5 years of life as shown in Dr. Farr's table, had declined in the same proportion as the rate for the entire group of 5 years as shown by his own calculation, and that the same was true for each group of ages.

The approximate life tables presented in connection with this report have been calculated by decennial groups of ages, 15-24, 25-34, etc., and by the use of arithmetical means, so that in a graphic construction the line indicating the mortality or the expectation of life is not a curve, as it should be from an accurate table, but a series of straight lines joining each other at various angles.

For purposes of comparison, the method of Mr. Humphreys was also employed with the data of Massachusetts and New Jersey, taking Dr. Farr's figures as a standard, and calculating the proportionate change at each age. The tables thus resulting are also given (Table LXV of this volume), together with their graphic representation; and on comparing these with the approximate tables calculated by the short method above indicated, it will be seen that for the first 60 years of life the difference is small.

From these life tables have been prepared a series of diagrams, a part of which are printed on semi-transparent

TABLE 153.—SHOWING EXPECTATION OF LIFE IN MASSACHUSETTS.

Age.	English.		MASSACHUSETTS. 5 YEARS.		MASSACHUSETTS.		NEW JERSEY.		DISTRICT OF COLUMBIA.				BOSTON.		NEW YORK CITY, 3 YEARS.		NEW YORK CITY.		BROOKLYN.		PHILADELPHIA.	
			Total population.		White.		White.		White.		Colored.		White.		Total population.		White.		White.		White.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
0	41.92	45.25	41.74	43.50	44.06	45.22	45.59	48.05	41.00	43.07	23.58	26.92	37.04	39.11	29.04	32.77	33.28	36.77	37.52	39.70	40.16	43.70
1	43.04	50.75	49.84	50.24	51.13	51.20	52.65	51.23	48.29	50.38	34.73	37.92	46.20	47.10	38.22	41.09	42.81	45.08	45.48	46.40	48.23	50.86
2	50.73	52.81	52.17	52.95	53.30	53.06	54.39	55.71	50.32	53.30	41.04	43.54	49.53	50.15	42.59	45.40	46.75	49.14	49.13	50.20	50.20	52.91
3	51.45	53.57	52.76	52.89	53.88	53.60	54.94	56.13	50.63	53.70	43.22	45.81	50.32	50.72	43.93	46.85	47.79	50.02	50.00	51.24	50.73	53.75
4	51.61	53.77	52.93	53.00	54.05	53.75	54.94	56.03	50.57	53.82	43.22	45.63	50.73	51.07	44.62	47.55	48.12	50.29	50.38	51.56	50.73	53.86
5	51.47	53.65	52.78	52.88	53.92	53.67	54.71	55.06	50.25	53.45	43.36	45.01	50.71	51.00	44.85	47.71	48.05	50.24	50.47	51.58	50.39	53.64
10	48.16	50.32	49.92	50.04	51.01	50.93	51.57	52.52	47.05	50.37	41.02	43.24	47.40	48.42	42.40	45.27	44.92	46.90	48.09	49.14	46.96	50.15
15	43.94	46.15	45.86	46.08	46.85	46.86	47.36	48.40	42.06	46.11	37.21	39.06	42.20	44.15	38.24	41.15	40.60	42.63	43.79	45.04	42.62	45.99
20	39.86	42.10	42.17	42.73	43.09	43.49	43.29	44.51	38.73	42.10	34.16	36.52	39.58	40.70	34.41	37.28	36.62	38.05	39.76	40.97	38.70	42.04
25	36.05	38.36	39.04	39.78	39.81	40.44	39.80	41.15	34.92	38.53	31.53	33.90	36.40	37.58	31.18	33.95	33.17	35.23	36.25	37.64	35.89	38.63
30	32.47	34.75	35.68	36.70	36.38	37.28	36.26	37.76	31.85	35.42	29.04	31.41	33.31	34.36	28.24	31.04	29.99	32.23	32.92	34.47	32.22	35.46
35	28.88	31.12	32.32	33.03	32.96	34.13	32.71	34.37	23.78	32.30	26.54	28.83	30.22	31.13	25.20	28.13	26.81	29.23	29.00	31.30	29.06	32.29
40	25.59	27.63	28.86	30.29	29.48	30.78	29.20	30.80	25.58	28.75	23.18	26.08	26.80	27.86	22.54	25.24	23.87	26.30	26.84	28.12	25.84	29.08
45	22.34	24.21	25.41	26.95	26.01	27.43	25.70	27.24	23.18	25.20	19.81	23.34	23.51	24.58	19.80	22.35	20.93	23.36	23.08	24.94	22.62	25.86
50	19.14	20.80	22.02	23.50	22.52	23.93	22.33	23.70	20.12	22.00	17.30	20.50	20.48	21.33	17.16	19.36	18.15	20.33	20.10	21.62	19.65	22.58
55	16.09	17.37	18.03	20.05	19.02	20.43	18.96	20.15	17.06	18.79	14.78	17.07	17.44	18.08	14.51	16.36	15.37	17.30	17.12	18.30	16.68	19.29
60	13.21	14.32	15.00	16.91	15.98	17.26	16.10	16.89	14.21	15.81	12.64	14.76	14.63	15.29	12.20	13.76	13.02	14.50	14.44	15.48	14.02	16.23
65	10.70	11.55	12.57	13.77	12.85	14.08	13.25	13.63	11.36	12.88	10.51	11.84	11.93	12.50	9.89	11.15	10.68	11.70	11.76	12.66	11.36	13.17
70	8.44	9.08	10.32	11.30	10.63	11.60	10.99	11.12	9.57	10.38	8.58	9.80	9.90	10.26	8.47	9.34	9.16	9.72	9.73	10.58	9.50	10.88
75	6.62	7.04	8.08	8.83	8.81	9.13	8.54	8.60	7.78	7.94	6.66	7.77	7.87	8.02	7.05	7.53	7.64	7.75	7.70	8.49	7.63	8.60
80	4.96	5.33	6.36	7.37	7.08	7.62	7.40	7.36	6.52	6.88	6.00	6.74	7.22	7.06	6.22	6.54	6.66	6.64	6.62	7.17	6.46	7.33
85	3.78	4.15	5.63	5.91	5.82	6.12	6.26	6.13	5.26	5.81	5.33	5.71	6.57	6.09	5.39	5.54	5.69	5.52	5.53	5.85	5.29	6.06
90	2.88	3.16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
95	2.20	2.40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
100	1.72	1.84	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

paper, in loose sheets, so that they may be superimposed and the lines for different localities directly compared. These diagrams, 74 in number, are contained in a portfolio.

The following table and diagrams show the expectation of life thus calculated, together with the expectation of life according to Farr's English life table, according to a table derived from the experience of 30 American life-insurance companies,^(a) and according to the Carlisle life table, which are added to show the nature of the deviations of these approximate life tables from those which have been carefully computed and adjusted by the aid of fairly reliable data:

^a See *System and Tables of Life Insurance, from the experience of thirty American life offices.* By Levi W. Meech. Royal, 8vo, page 230. Norwich, Connecticut, 1881.

NEW JERSEY, AND SEVERAL CITIES, AND BY CERTAIN LIFE TABLES.

BALTIMORE.				CHARLESTON.				NEW ORLEANS.				CINCINNATI.		CHICAGO.		SAINT LOUIS.		SAN FRANCISCO.		English life No. 3.		Thirty American offices.		Carlisle.	Age.	
White.		Colored.		White.		Colored.		White.		Colored.		White.		White.		White.		White.								
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			Per-sons.
36.49	39.86	21.00	25.51	35.51	41.17	21.30	22.33	33.87	42.33	22.78	28.35	37.73	43.10	38.11	41.29	36.75	41.10	38.02	44.62	39.91	41.85	----	----	38.72	0	
44.73	47.36	32.20	38.44	41.27	49.33	33.02	32.09	41.98	50.22	33.33	39.83	46.19	50.69	46.82	47.78	49.71	52.87	45.47	51.89	46.05	47.31	----	----	44.68	1	
48.42	51.18	39.25	44.57	44.69	52.98	38.20	39.65	44.04	52.42	35.67	44.55	49.13	53.38	50.00	51.32	52.74	55.91	46.91	52.97	48.83	49.40	----	----	47.55	2	
40.77	52.33	41.19	46.13	44.39	52.00	39.69	40.92	44.34	52.73	36.74	45.76	50.10	54.23	51.04	52.37	52.69	56.12	47.00	53.32	49.91	50.29	----	----	49.82	3	
50.27	52.90	41.84	46.30	44.22	52.22	39.54	41.53	44.18	52.68	36.38	45.77	50.20	54.43	52.32	53.15	52.40	55.90	46.94	53.12	49.81	50.43	----	----	50.76	4	
50.40	52.99	41.84	46.79	44.77	51.43	39.65	41.71	43.68	52.09	36.26	45.27	49.87	54.26	52.44	53.35	51.90	55.49	46.44	52.64	40.71	50.33	----	----	51.25	5	
48.50	50.83	40.00	44.75	41.84	46.63	37.29	38.64	40.09	48.23	33.02	41.98	46.90	51.20	50.01	51.02	48.25	51.83	43.09	48.82	47.05	47.67	49.99	48.05	48.82	10	
44.35	46.58	36.84	42.00	37.83	42.52	34.30	35.10	36.06	43.81	29.09	38.41	42.02	40.95	40.67	47.54	43.99	47.52	38.47	44.30	43.18	43.90	46.57	44.19	45.00	15	
40.36	42.65	33.76	39.47	33.34	39.14	30.64	32.57	31.99	39.60	26.01	35.25	38.53	43.00	42.67	43.74	39.94	43.52	34.50	40.28	39.48	40.29	43.07	40.82	41.46	20	
36.86	39.27	31.02	36.34	30.02	35.42	28.95	30.40	28.50	36.19	24.38	33.07	34.04	39.47	38.96	40.09	36.02	39.92	31.14	36.85	36.12	37.04	39.49	37.80	37.86	25	
33.45	36.04	27.76	33.53	27.45	32.72	26.40	27.88	25.62	33.08	23.44	30.53	31.52	36.10	35.47	36.58	32.64	36.66	28.00	33.68	32.76	33.81	35.85	34.89	34.34	30	
30.04	32.81	24.51	30.72	24.88	30.03	23.86	25.35	22.75	29.98	21.91	27.99	28.10	32.72	31.98	33.08	29.27	33.40	25.04	30.52	29.40	30.59	32.17	31.78	31.00	35	
26.70	29.40	21.71	27.64	22.42	26.78	20.80	22.22	20.46	27.11	19.58	25.40	25.08	29.29	28.48	29.62	26.04	30.12	22.40	27.30	26.06	27.34	28.48	28.48	27.61	40	
23.35	25.90	18.91	24.56	19.97	23.53	17.75	19.09	18.18	24.24	17.25	22.82	22.07	25.80	24.98	26.17	22.80	26.84	19.75	24.08	22.76	24.06	24.82	25.02	24.46	45	
19.90	22.58	16.26	21.58	17.18	20.41	15.14	16.31	16.00	21.24	15.82	19.74	19.19	22.35	24.66	22.62	20.14	23.44	17.47	20.94	19.54	20.75	21.24	21.33	21.11	50	
16.56	19.16	13.62	18.59	14.30	17.29	12.52	13.53	13.83	18.25	14.39	16.65	16.31	18.84	18.33	19.07	17.47	20.04	15.19	17.80	16.45	17.43	17.80	17.73	17.58	55	
14.06	15.96	11.29	15.54	11.92	14.36	10.64	11.44	11.52	15.64	12.10	14.33	13.62	15.70	15.37	16.02	15.26	16.98	12.82	15.04	13.53	14.34	14.56	14.37	14.34	60	
11.57	12.77	8.96	12.48	9.45	11.43	8.77	9.35	9.21	13.03	9.80	12.01	10.94	12.56	12.41	12.96	13.06	13.93	10.44	12.28	10.82	11.51	11.60	11.31	11.79	65	
10.09	10.40	7.80	9.94	8.02	9.90	7.72	8.00	8.00	10.86	8.10	9.87	9.06	10.46	10.05	10.94	11.56	12.16	8.90	9.98	8.45	9.02	8.97	8.62	9.18	70	
8.61	8.03	6.65	7.39	6.59	7.70	6.68	6.83	6.78	8.70	6.41	7.73	7.10	8.35	7.69	8.93	10.07	10.39	7.35	7.67	6.40	6.93	6.72	6.34	7.01	75	
7.39	6.90	6.20	6.49	5.86	7.32	5.90	5.99	6.02	7.44	6.16	6.76	6.50	6.98	6.76	7.82	9.36	9.20	7.66	6.81	4.93	5.26	4.87	4.40	5.51	80	
6.17	5.78	5.86	5.50	5.13	6.88	5.13	5.15	5.25	6.18	5.02	5.78	5.82	5.60	5.84	6.71	8.65	8.14	7.96	5.95	3.78	3.98	3.40	3.08	4.12	85	
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	2.84	3.01	2.17	2.05	3.28	90
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	2.17	2.29	1.34	1.34	2.53	95
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	1.68	1.76	-----	-----	2.28	100

MORTALITY AND VITAL STATISTICS.

FIG. 124.—EXPECTATION OF LIFE AT BIRTH.

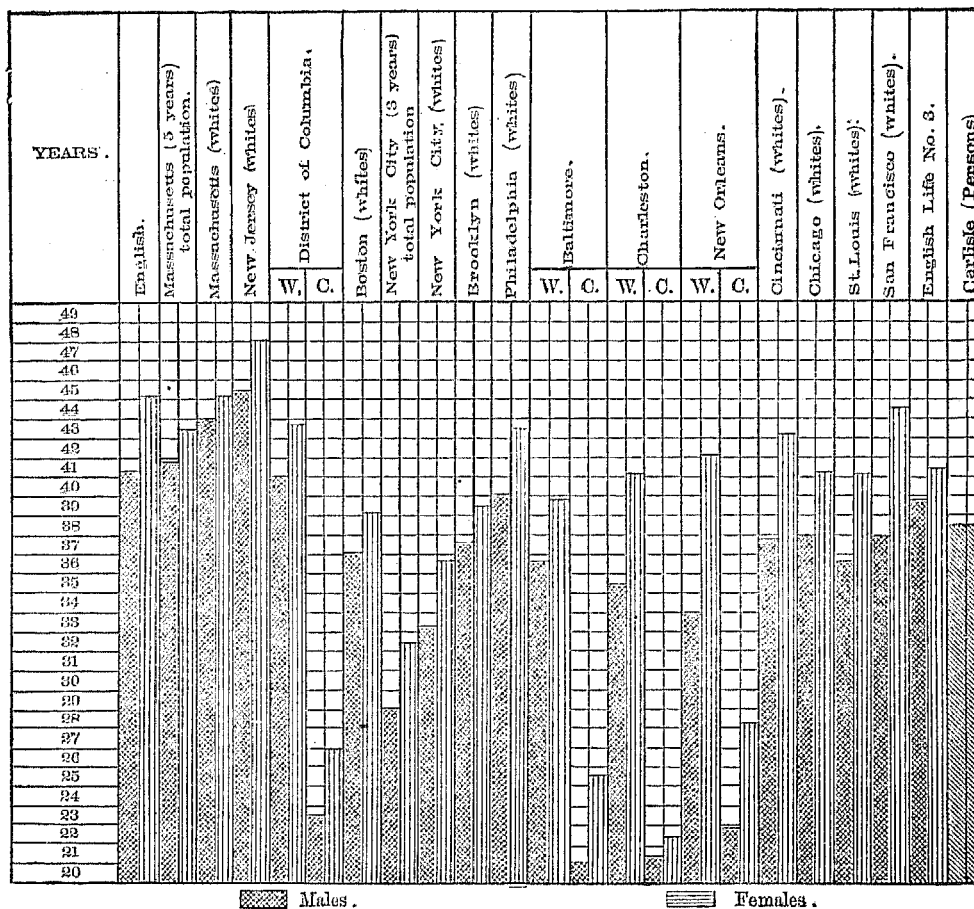


FIG. 125.—EXPECTATION OF LIFE AT 15.

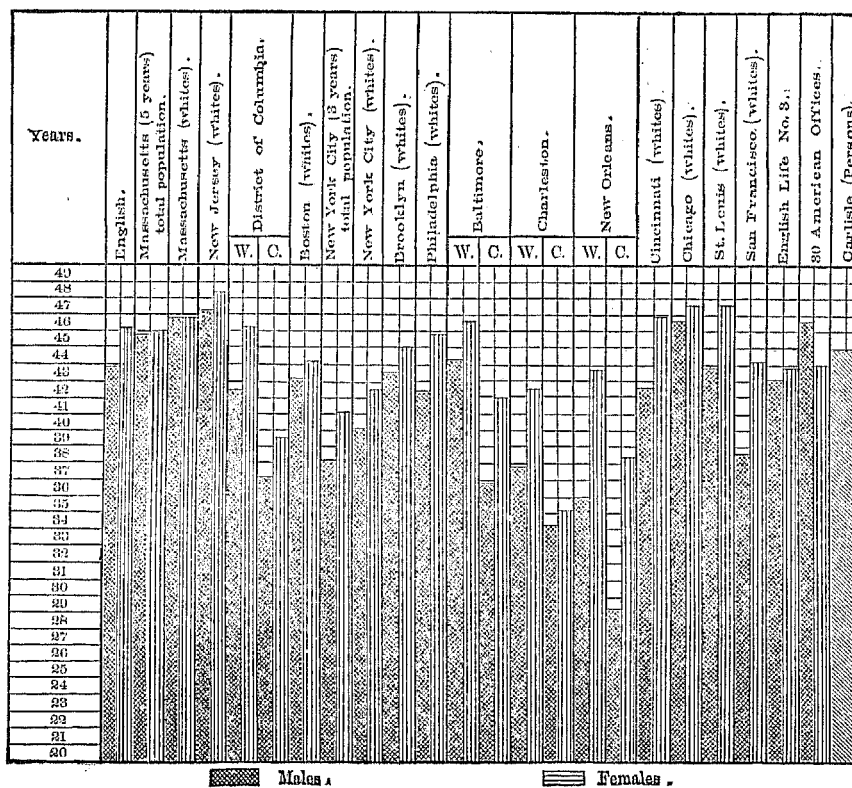


FIG. 126.—EXPECTATION OF LIFE AT 35.

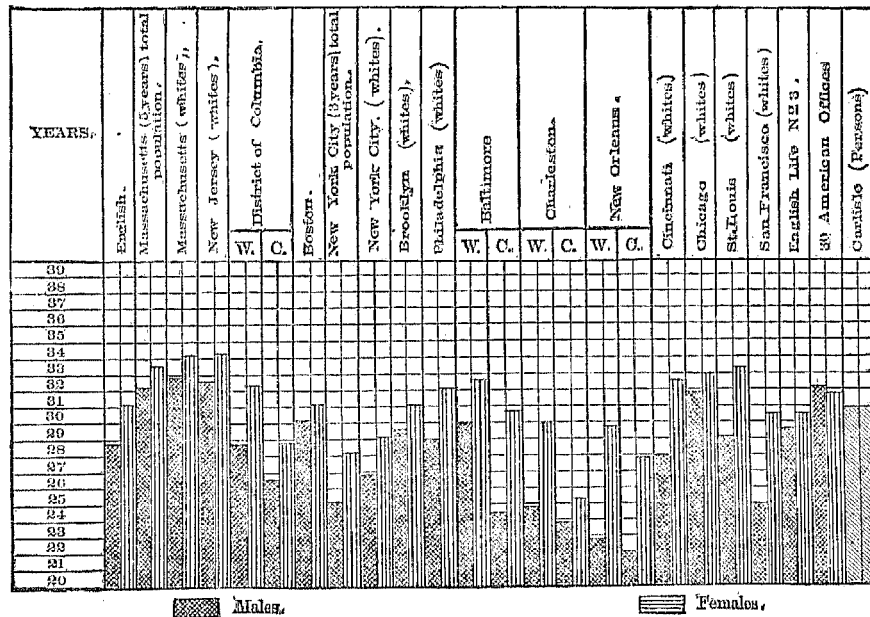
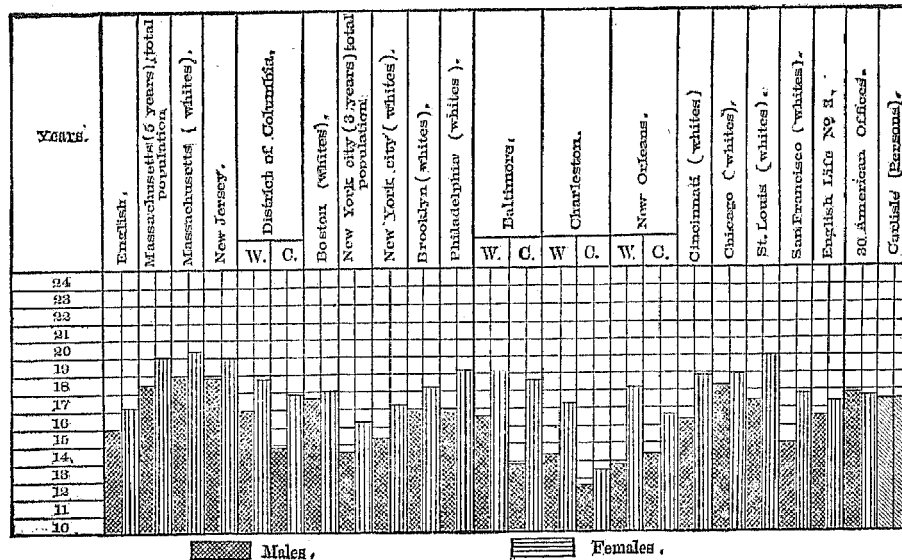


FIG. 127.—EXPECTATION OF LIFE AT 55.



It might at first be supposed, by those who have given no special attention to this subject, that the most accurate as well as the easiest way of computing the mortality for each year of age as the basis for a life table would be to take the numbers actually reported as living and dying at each year of age, and to make the calculations directly from them. This, however, is not the case, owing to the tendency of the average man or woman to report the ages of the inmates of the household in what are commonly termed "round numbers"—that is, by even tens, or, to a less extent, by fives. Thus, a person whose age is 29 or 31 will very often be returned as 30. The extent to which this error affects returns by single years of age will be seen from the following table:

TABLE 154.—SHOWING FOR MASSACHUSETTS AND NEW JERSEY, BY SINGLE YEARS, WITH DISTINCTION OF SEX, THE POPULATION AS RETURNED BY CENSUS ENUMERATORS AND THE DEATHS AS REPORTED BY REGISTRATION.

Age.	MASSACHUSETTS.								NEW JERSEY.							
	Population.				Deaths.				Population.				Deaths.			
	White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
	Male.	Female.	M.	F.	M.	F.	M.	F.	Male.	Female.	M.	F.	M.	F.	M.	F.
0.....	18,754	18,315	258	260	4,008	3,144	71	47	13,665	13,481	527	519	2,223	1,875	130	107
1.....	16,541	16,182	150	169	980	889	26	23	11,760	11,702	437	449	593	527	20	24
2.....	18,140	17,846	216	213	530	509	9	8	13,072	12,942	454	478	379	321	18	13
3.....	18,042	17,500	195	192	885	376	5	6	13,170	13,112	443	438	236	212	11	7
4.....	18,133	17,703	200	220	291	300	3	2	13,354	13,183	450	462	184	165	6	7
5.....	18,037	18,115	192	210	202	230	5	.....	13,205	13,231	433	470	132	130	1	6
6.....	17,018	17,395	176	194	160	158	3	2	13,209	13,041	429	450	108	100	7	2
7.....	17,143	17,114	178	189	119	144	1	2	12,775	12,891	395	452	78	84	1	.....
8.....	16,365	16,233	176	174	98	113	2	1	12,482	12,173	389	409	65	60	3	4
9.....	15,977	15,793	148	171	91	78	.....	1	11,784	11,786	420	380	53	46	1	1
10.....	16,847	16,600	178	158	66	50	.....	.....	12,507	12,406	423	413	48	55	2	1
11.....	14,064	15,110	135	129	55	71	.....	1	10,976	10,791	317	351	43	35	5	.....
12.....	16,845	16,439	150	159	57	65	.....	1	12,298	12,220	422	419	34	32	2	3
13.....	15,279	15,474	140	141	43	56	.....	1	11,086	11,160	351	375	23	36	1	3
14.....	16,335	15,938	153	152	54	55	.....	2	11,747	11,278	408	376	37	37	2	4
15.....	15,114	15,479	111	113	60	73	2	3	10,283	10,340	334	352	32	28	3	6
16.....	15,156	16,404	122	143	64	108	.....	1	10,591	10,970	342	340	33	45	2	1
17.....	15,290	16,282	126	166	83	119	1	.....	10,263	10,691	304	369	41	47	4	4
18.....	16,790	19,525	129	182	110	161	2	2	10,741	12,357	378	403	46	72	7	4
19.....	17,425	18,061	182	195	118	157	.....	2	10,717	11,025	370	405	60	70	5	5
20.....	17,481	21,555	177	240	144	159	2	1	10,611	12,482	347	486	63	65	7	2
21.....	16,422	17,744	149	167	132	156	1	1	10,384	9,856	408	343	59	84	3	2
22.....	17,383	20,853	214	236	137	199	3	7	10,067	11,280	409	434	68	79	8	6
23.....	16,480	19,940	192	238	146	219	3	1	9,810	10,401	427	463	81	79	5	4
24.....	15,858	18,934	217	273	129	174	.....	3	9,460	10,165	404	464	87	94	3	6
25.....	17,502	20,201	298	272	130	160	1	4	9,755	10,668	458	524	77	69	2	6
26.....	14,052	16,816	188	229	111	166	5	1	8,506	9,037	327	399	53	73	3	3
27.....	13,858	15,238	199	223	120	173	1	2	7,770	7,929	318	328	50	62	5	4
28.....	16,295	17,828	240	238	140	179	4	1	9,155	9,793	364	397	63	82	2	2
29.....	11,813	13,102	167	191	116	127	2	4	6,981	7,293	259	246	77	71	2	1
30.....	20,583	21,967	442	330	133	162	5	2	11,425	12,411	569	591	71	80	3	4
31.....	9,493	9,946	98	90	101	106	.....	1	5,776	5,561	172	177	45	60	1	5
32.....	12,790	13,941	172	168	109	152	2	1	7,554	7,959	262	289	69	64	2	4
33.....	11,170	12,768	150	169	117	145	.....	3	6,513	6,943	210	226	67	84	1	1
34.....	10,707	11,914	150	126	112	138	1	.....	7,713	6,608	216	202	63	67	3	5
35.....	17,673	18,678	327	242	144	170	5	1	10,876	10,924	522	488	96	91	3	7
36.....	10,962	12,334	143	142	133	147	2	3	7,181	7,183	276	263	65	61	2	1
37.....	9,863	11,061	112	129	105	125	5	.....	6,032	6,178	208	230	64	55	2	1
38.....	12,166	13,612	172	132	132	145	2	1	7,736	7,935	274	281	72	79	2	1
39.....	8,798	10,153	138	128	111	131	1	3	5,929	5,985	233	234	68	47	5	2
40.....	20,146	20,748	311	277	148	169	4	6	12,500	12,165	539	527	105	99	7	2
41.....	6,624	7,277	65	58	84	82	1	1	4,189	3,924	107	113	59	46	2	3
42.....	9,741	11,047	106	90	105	132	2	.....	5,866	6,076	166	180	56	58	6	1
43.....	8,041	9,058	77	79	87	100	2	1	4,751	4,961	139	134	68	45	2	1
44.....	7,474	8,710	61	61	91	103	.....	.....	4,626	4,604	112	130	45	60	2	2
45.....	14,739	14,911	182	151	159	145	4	8,509	8,131	324	357	108	79	3	2

BIRTHS, BIRTH RATES, AND LIFE TABLES.

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TABLE 154.—SHOWING FOR MASSACHUSETTS AND NEW JERSEY, BY SINGLE YEARS, WITH DISTINCTION OF SEX, THE POPULATION AS RETURNED BY CENSUS ENUMERATORS, Etc.—Continued.

Age.	MASSACHUSETTS.								NEW JERSEY.							
	Population.				Deaths.				Population.				Deaths.			
	White.		Colored.		White.		Colored.		White.		Colored.		White.		Colored.	
	Male.	Female.	M.	F.	M.	F.	M.	F.	Male.	Female.	M.	F.	M.	F.	M.	F.
46.....	7,627	8,467	59	64	102	118	1	1	4,491	4,647	131	138	58	65	2	2
47.....	7,085	7,964	74	67	93	94	1	2	4,223	4,268	108	107	59	56	2	2
48.....	8,394	9,414	64	81	106	115			5,055	5,271	104	170	66	46	2	3
49.....	6,516	7,480	56	69	105	96		1	4,089	4,068	107	125	48	59	3	
50.....	14,847	16,399	159	231	140	138	4	1	8,524	8,646	343	388	100	78	3	1
51.....	5,061	5,568	30	30	97	83			3,040	2,797	84	82	53	41	2	1
52.....	7,062	7,714	64	63	125	105			4,370	4,071	124	132	72	61	2	1
53.....	6,090	6,521	45	49	87	125	1		3,553	3,523	82	88	60	57	2	2
54.....	5,916	6,580	54	59	92	108	1	1	3,709	3,525	109	119	77	50		
55.....	8,109	8,674	72	76	133	130	2	3	4,656	4,570	178	174	122	73	2	3
56.....	6,045	6,326	57	71	126	131	2	2	3,519	3,370	102	101	68	69	3	2
57.....	4,774	4,963	31	37	113	107			2,618	2,411	82	62	69	49	2	
58.....	5,402	5,855	52	51	130	115	1	1	2,972	2,958	71	94	60	53		
59.....	4,297	4,555	28	30	104	106		1	2,558	2,381	52	69	66	40	3	4
60.....	9,556	10,441	105	139	174	175	3		5,179	5,376	255	263	118	81	10	7
61.....	3,600	3,856	18	15	122	101			2,015	1,958	88	39	70	61	4	4
62.....	4,546	4,854	39	35	145	121		2	2,539	2,506	84	65	71	54	2	5
63.....	4,179	4,428	42	35	139	115	2		2,261	2,237	58	58	84	57	1	3
64.....	3,779	4,028	17	19	143	122	1		2,004	1,989	60	49	65	56		3
65.....	5,491	5,924	53	57	183	208	3	2	2,878	2,916	127	151	98	87	1	5
66.....	3,161	3,510	26	20	129	104	1	2	1,692	1,789	31	43	60	57	2	1
67.....	3,167	3,600	10	21	163	138	1		1,493	1,617	35	30	72	76	1	2
68.....	3,250	3,078	24	30	139	154	3	1	1,671	1,668	58	44	77	78	1	5
69.....	2,786	3,037	22	21	167	149	1	1	1,352	1,387	37	41	63	75		2
70.....	4,097	5,209	37	47	181	200	2	3	2,098	2,407	112	140	92	90	2	3
71.....	2,082	2,316	10	14	151	131			988	968	23	25	50	43	1	2
72.....	2,214	2,810	19	14	148	154	1		1,154	1,240	31	31	81	61		1
73.....	2,058	2,536	11	16	124	143		2	1,045	1,082	17	29	90	80	4	1
74.....	1,871	2,276	6	12	153	146	1		896	1,032	23	33	64	69	3	1
75.....	2,166	2,307	13	21	177	177	5	2	961	1,102	66	50	73	92	5	2
76.....	1,557	2,092	9	13	126	157	1	1	730	879	15	28	61	71	3	1
77.....	1,164	1,563	5	10	139	143			521	625	19	18	53	62	1	
78.....	1,181	1,511	6	13	134	159		1	541	709	18	20	58	72	2	3
79.....	1,049	1,420	10	10	137	158	1	1	433	581	16	18	67	58	1	
80.....	1,339	1,995	17	35	153	169			500	755	32	55	77	94	5	7
81.....	657	906	6	3	117	116		3	237	321	5	7	30	59	1	1
82.....	614	982	5	5	94	144			238	358	13	11	39	58	3	
83.....	539	853	1	4	111	117			189	300	7	12	29	45		2
84.....	455	771	1	7	77	132		1	169	303	4	9	33	53	1	1
85.....	320	611	2	4	77	116		1	135	250	10	15	24	35		
86.....	255	502	1	4	49	95		2	126	176	8	8	14	32	1	1
87.....	217	403	2	6	49	75			110	150	3	7	17	38		
88.....	187	298	3	3	42	74	1		84	117	5	8	21	26	1	1
89.....	113	244	1	4	35	45			48	81	5	3	13	25	1	2
90.....	120	254	2	1	29	48	1	3	48	86	4	14	20	15	1	1
91.....	60	119		1	13	32			28	38		2	7	8		
92.....	46	101			11	32		1	24	47	3	1	4	11		2
93.....	37	98			11	27			15	33	1		3	9	1	
94.....	21	58		1	18	18			6	24	1	1	5	5		
95.....	22	48	2		5	18	2	1	8	10	2	2	3	5	1	1
96.....	13	33	1		3	8			8	12	1		1	4	2	1
97.....	13	18	1		2	5			4	10			1	2		1
98.....	5	20			3	7		1	7	9		1	1			
99.....	1	10	1			4			2	7	1			1		
100 and over..	7	30	4	2	2	10		1	2	11	5	7		7	1	2
Unknown.....													70	42	5	3

MORTALITY AND VITAL STATISTICS.

The extent to which the use of the ages as given by single years would vitiate the results if they were used for direct computations of mortality rates may be seen by the following:

TABLE 155.—SHOWING FOR MASSACHUSETTS AND NEW JERSEY, FOR CERTAIN AGES, WITH DISTINCTION OF COLOR AND SEX, THE PROPORTION OF DEATHS IN 1000 OF POPULATION, AS COMPUTED FROM THE RETURNS FOR SINGLE YEARS.

Age.	MASSACHUSETTS.				NEW JERSEY.			
	White.		Colored.		White.		Colored.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
19 years	6.77	8.41	.....	10.25	5.59	6.34	18.51	12.84
20 years	8.23	7.37	11.29	4.16	5.93	5.20	20.17	4.11
21 years	8.03	8.79	6.71	5.93	5.68	8.52	7.35	5.83
24 years	8.13	9.18	.....	10.93	9.19	9.24	7.42	12.39
25 years	7.42	7.92	3.35	14.70	7.89	6.46	4.30	11.45
26 years	7.57	9.87	26.50	4.36	6.23	8.07	9.17	7.51
29 years	9.81	9.69	11.97	20.94	11.02	9.73	7.72	4.06
30 years	6.46	7.37	11.31	6.06	6.21	6.44	5.27	6.76
31 years	10.63	10.05	.....	10.41	7.79	10.78	5.81	28.24
39 years	12.01	12.00	7.24	23.43	11.40	7.85	21.45	8.54
40 years	7.34	8.14	12.86	21.06	8.40	8.13	12.03	3.70
41 years	12.63	11.26	15.38	17.24	14.08	11.72	18.69	26.54
49 years	16.11	12.83	.....	14.49	11.73	14.50	23.03	.....
50 years	9.42	8.41	25.15	4.32	11.73	9.02	8.74	2.57
51 years	19.16	14.90	.....	.....	17.43	14.65	23.80	12.10

The conclusion that the mortality at the ages of 20, 25, 30, 40, or 50 is much less than at the ages immediately preceding or following these periods, as indicated by the above table, would, of course, be quite erroneous. This error is avoided to a great extent when the ages are taken by decennial periods, as from 25 to 34, etc., as has been done in the approximate life tables given in this report. It should be remembered, however, that the returns of ages at death are more accurate than those for the living, and as the figures for each are taken for the periods 25-34, 35-44, etc., inclusive, it follows that the excess for the ages 25, 35, 45, etc., is distributed wholly in the succeeding decade, instead of being distributed between the preceding and the succeeding decades, as it should be if accuracy is desired. The effect of this is to make the mortality rates for each decade, as calculated, a trifle lower than the reality, but the difference is unimportant.

In this connection the following figures showing the mean age at death are given; but it is proper to state to those who are not familiar with the subject of vital statistics that no definite conclusions can be drawn from these figures. The mean age at death for the whole United States was 26.0; in the 50 large cities it was 23.6; for the rest of the country, 26.7 years. In the 10 grand groups in which the distinction of color was made, the mean age at death of whites was 26.8; of the colored, 20.4 years; and in the 14 grand groups in which the distinctions of Irish and German parentage were made, the mean age of death was, for the Irish, 34.2; for the German, 28.4 years; the greater average age at death for those of Irish and German parentage being, of course, due to the much greater proportion of persons of adult age in those classes of the population. For the 17 years 1838-'54, the mean age at death in England was 29.4, the mean expectation of life for the same period being 40.9 years.

SECTION XI.—AGES OF LIVING POPULATION.

The character of the stream of life which is flowing through a given country or locality at a given date is indicated by tables showing the distribution of ages in the living population with distinction of sex, and, as far as possible, of race. Upon the peculiarities of age distribution depend very largely both natality and gross mortality rates, and also the mortality from certain diseases; and hence these peculiarities must be taken into account in the study of deaths in relation to age, sex, locality, occupation, etc.

Tables LVI to LXI, inclusive, show the distribution of ages, and the proportion which the number at each age bears to the whole, for the living population of the United States and of each individual state.

AGES OF LIVING POPULATION.

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The following tables and cartograms show for the states and territories the proportion of population under 5 years and over 60 years of age to all ages:

TABLE 156.—SHOWING FOR THE POPULATION OF THE STATES AND TERRITORIES THE NUMBER UNDER 5 YEARS OF AGE IN 100,000 OF ALL AGES.

States and Territories.	Per 100,000 of all ages.	States and Territories.	Per 100,000 of all ages.	States and Territories.	Per 100,000 of all ages.	States and Territories.	Per 100,000 of all ages.
New Hampshire	8,811	District of Columbia	11,617	Illinois	13,526	Louisiana.....	16,074
Arizona	9,748	Wyoming.....	11,768	Washington territory.....	13,725	Tennessee	16,209
Maine	9,922	New Jersey.....	11,910	Wisconsin	13,781	Florida	16,271
Colorado.....	9,932	Delaware.....	12,506	Iowa	14,164	North Carolina	16,654
Montana.....	9,985	Ohio	12,677	Missouri.....	14,339	Georgia.....	16,962
Massachusetts.....	10,056	Michigan.....	12,697	Dakota	14,589	Alabama.....	16,966
Connecticut	10,097	Idaho.....	12,830	Minnesota.....	15,012	Mississippi.....	17,310
Nevada.....	10,113	Pennsylvania.....	12,893	Kentucky	15,063	South Carolina	17,432
Vermont.....	10,260	Indiana.....	13,023	Kansas.....	15,230	Texas	17,502
Rhode Island	10,337	Oregon	13,112	Virginia.....	15,516	Arkansas.....	17,750
California.....	10,805	Maryland.....	13,151	Nebraska.....	15,950	Utah	17,776
New York	10,998	New Mexico.....	13,506	West Virginia.....	16,058		

Fig. 128.—CARTOGRAM SHOWING DISTRIBUTION OF POPULATION UNDER 5 YEARS PER 1000 OF TOTAL POPULATION. IN 5 SHADES.

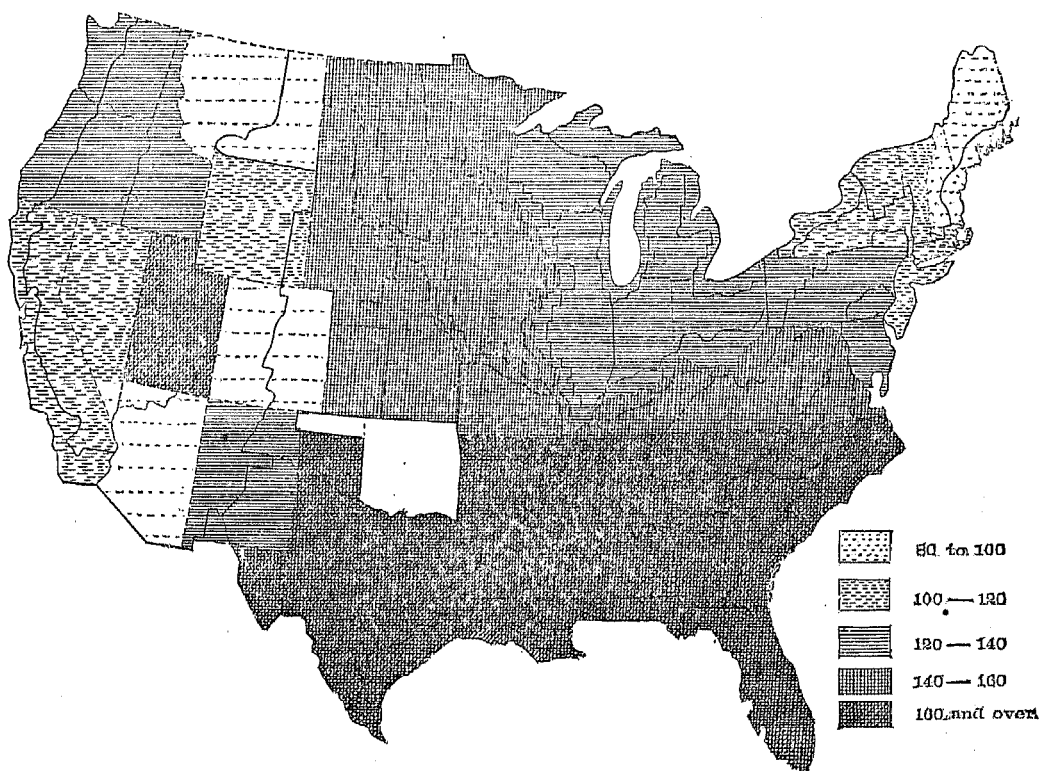
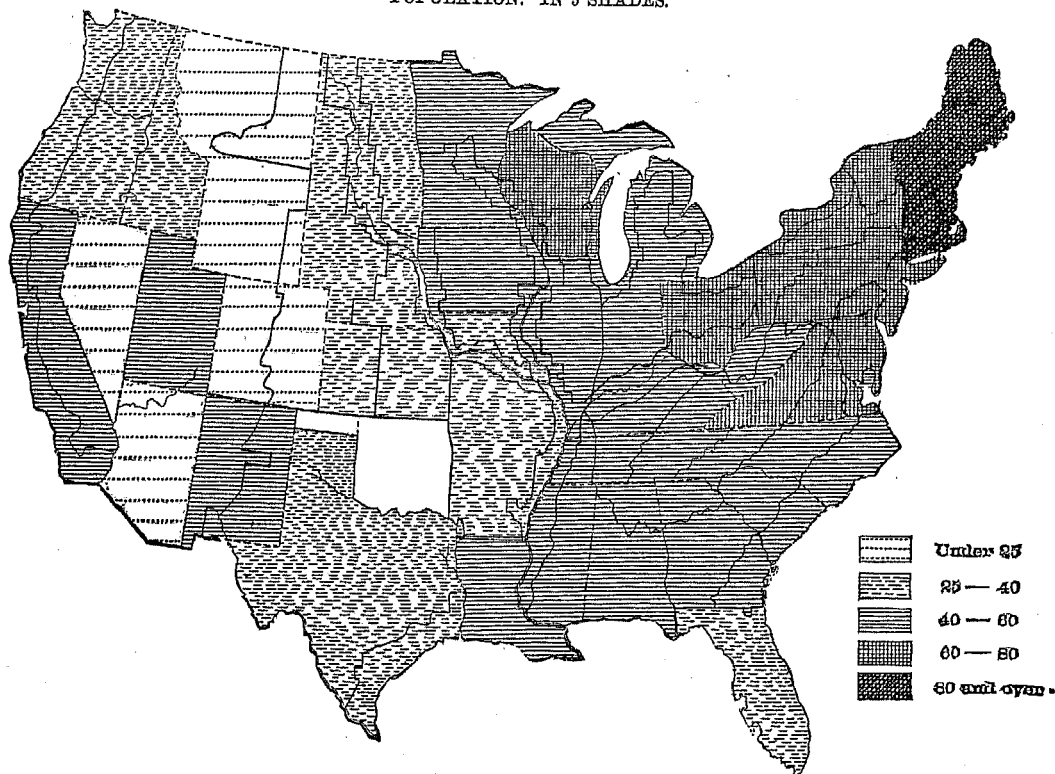


TABLE 157.—SHOWING FOR THE POPULATION OF THE STATES AND TERRITORIES THE NUMBER OVER 60 YEARS OF AGE IN 100,000 OF ALL AGES.

States and Territories.	Per 100,000 of all ages.	States and Territories.	Per 100,000 of all ages.	States and Territories.	Per 100,000 of all ages.	States and Territories.	Per 100,000 of all ages.
Wyoming.....	1,406	Oregon	3,632	Illinois.....	4,784	Ohio	6,420
Arizona	1,805	Missouri.....	3,945	Iowa.....	4,912	Wisconsin.....	6,436
Montana.....	1,926	Florida.....	3,970	West Virginia	5,001	New Jersey.....	6,577
Colorado.....	2,009	California.....	4,092	Utah	5,020	Delaware.....	6,738
Nevada.....	2,234	Mississippi.....	4,219	Indiana.....	5,088	New York	7,411
Dakota	2,640	New Mexico.....	4,235	South Carolina	5,250	Rhode Island	8,004
Idaho.....	2,769	Minnesota.....	4,333	North Carolina	5,327	Massachusetts.....	8,383
Washington territory.....	2,968	Alabama.....	4,428	District of Columbia.....	5,385	Connecticut.....	9,229
Arkansas.....	2,930	Tennessee.....	4,445	Michigan.....	5,760	Maine	9,922
Nebraska.....	3,043	Louisiana.....	4,670	Virginia.....	6,039	Vermont.....	11,410
Kansas.....	3,190	Georgia.....	4,700	Maryland.....	6,126	New Hampshire.....	12,201
Texas	3,231	Kentucky.....	4,730	Pennsylvania.....	6,383		

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FIG. 129.—CARTOGRAM SHOWING DISTRIBUTION OF POPULATION OVER 60 YEARS PER 1000 OF TOTAL POPULATION. IN 5 SHADES.



The following tables and diagrams show the distribution of the population of the United States in relation to age at the censuses of 1870 and 1880, with distinction of native-born whites, foreign-born whites, and colored. A glance at fig. 130 shows that the decrease in the number living at each quinquennial group of ages at the census of 1880 is tolerably regular for the whole population, for the native-born whites, and for the colored, as we proceed from the lower to the higher ages, but that to this there is one marked exception for the age-group 15-20, in which the line makes a sudden angle, indicating a relative deficiency in the number of persons living at this age. It will be observed, also, that the age group in which there is the greatest proportion of the foreign-born population is that from 35 to 40:

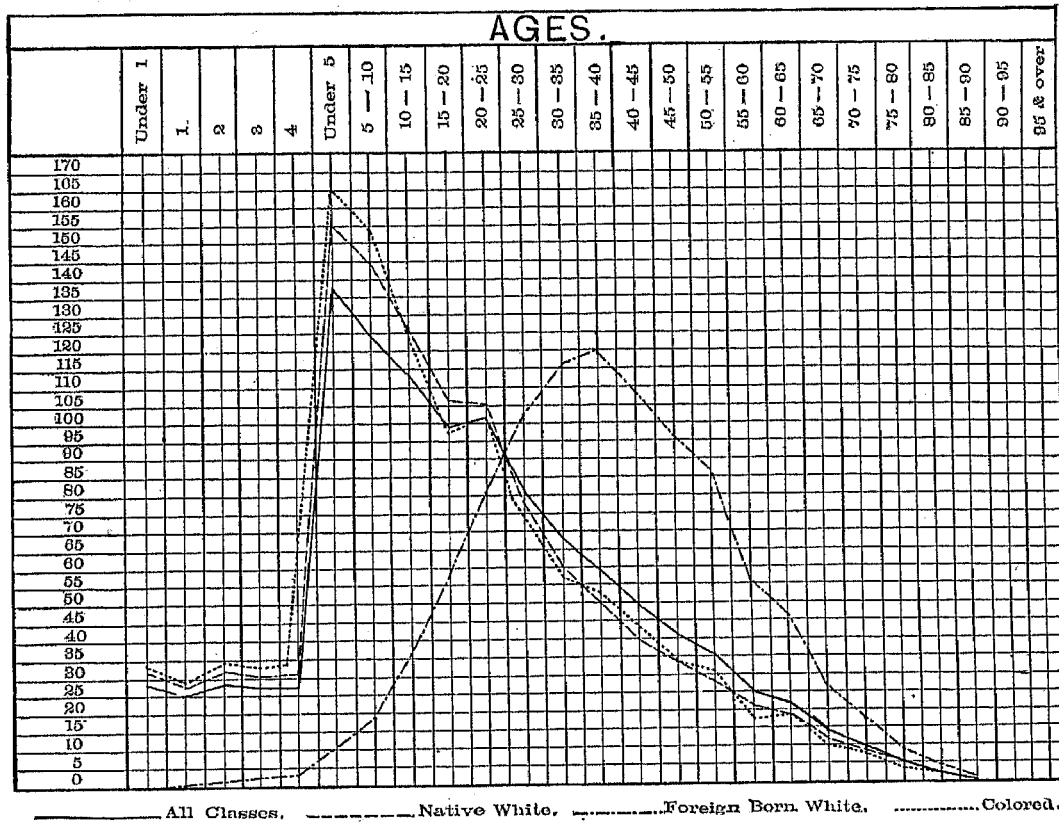
TABLE 158.—SHOWING FOR THE UNITED STATES, WITH DISTINCTION OF NATIVE-BORN WHITES, FOREIGN-BORN WHITES, AND COLORED, THE PROPORTION IN 1000 OF THOSE LIVING AT CERTAIN GROUPS OF AGES AT CENSUS OF 1880.

Groups of ages.	All classes.	Native whites.	Foreign whites.	Colored.
Under 1 year.....	28.8	32.0	0.0	33.0
1 year.....	25.0	28.4	1.5	29.2
2 years.....	28.4	32.0	2.0	34.4
3 years.....	27.5	30.9	2.3	33.1
4 years.....	27.9	31.2	2.5	34.2
Under 5 years.....	137.8	155.7	9.5	165.0
5-10 years.....	129.1	144.3	18.7	153.6
10-15 years.....	113.0	126.0	36.3	123.6
15-20 years.....	99.9	107.8	57.7	97.7
20-25 years.....	101.4	105.1	80.5	101.4
25-30 years.....	81.3	77.9	102.3	79.8
30-35 years.....	67.1	60.1	116.2	57.7
35-40 years.....	59.8	50.4	120.3	52.1
40-45 years.....	49.2	40.1	108.6	41.1
45-50 years.....	41.6	33.4	96.1	33.7
50-55 years.....	36.6	28.5	87.9	31.3
55-60 years.....	25.3	21.2	56.8	17.2
60-65 years.....	22.0	18.1	47.3	18.7
65-70 years.....	14.4	12.9	27.6	10.1
70-75 years.....	9.8	8.9	17.4	7.5
75-80 years.....	5.6	5.2	9.2	3.8
80-85 years.....	2.9	2.6	4.7	2.7
85-90 years.....	0.9	0.9	1.4	0.3
90-95 years.....	0.3	0.2	0.4	0.6
95-100 years.....	0.08	0.05	0.1	0.2

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FIG. 130.—PROPORTIONS, IN 1000, OF LIVING POPULATION AT CERTAIN GROUPS OF AGES, AT CENSUS OF 1880.



Comparing the above facts with those indicated by a corresponding table and diagram for the census of 1870 (table 159 and fig. 131), we find that the peculiar deficiency in the age group, and the maximum proportion of foreign-born, occur in the age groups preceding by 10 years those in which they occur in 1880.

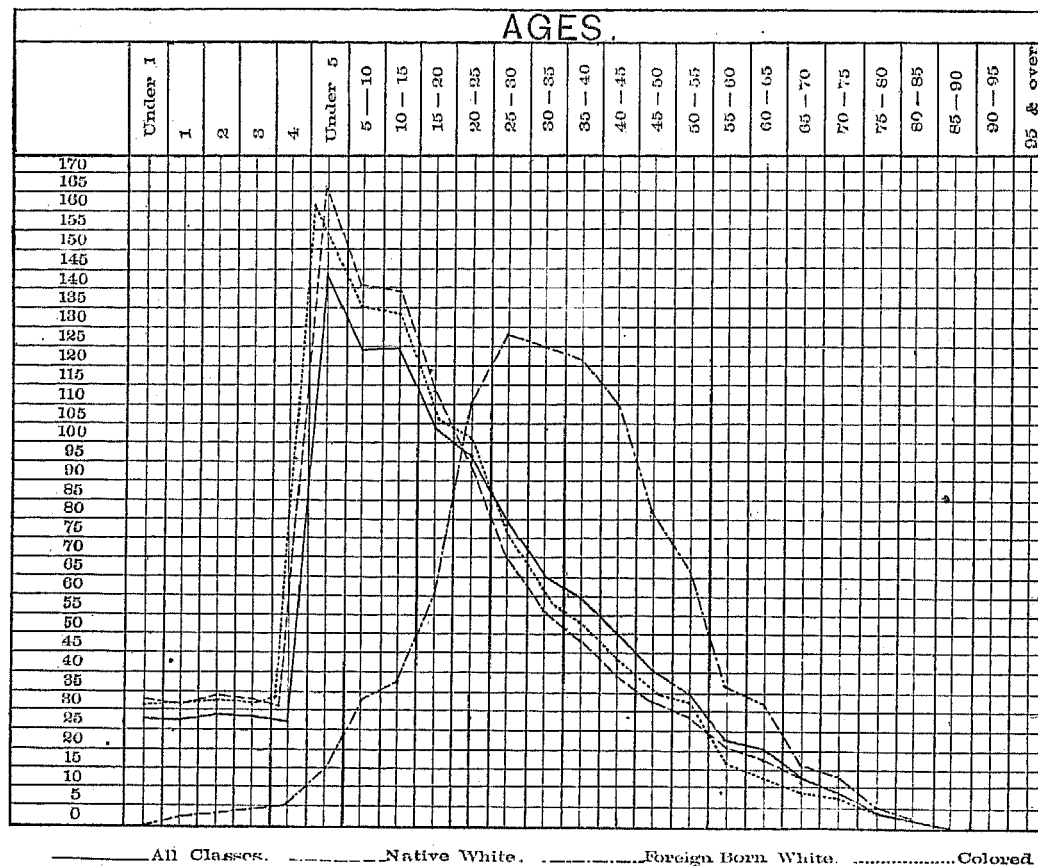
In fig. 131 the break or step in the descending line occurs in the age group 5-10 instead of that of 15-20, and the maximum proportion of the foreign-born is at the age group 25-30 instead of that of 35-40. Going back between 5 and 10 years from the census of 1870 to see what special cause existed in that period for a diminution in the number of births, we find ourselves in the period of our civil war.

TABLE 159.—SHOWING FOR THE UNITED STATES, WITH DISTINCTION OF NATIVE-BORN WHITES, FOREIGN-BORN WHITES, AND COLORED, THE PROPORTION IN 1000 OF THOSE LIVING AT CERTAIN GROUPS OF AGES AT CENSUS OF 1870.

Groups of ages.	All classes.	Native whites.	Foreign whites.	Colored.
Under 1 year.....	28.5	33.5	1.0	31.3
1 year.....	28.0	32.4	2.0	32.2
2 years.....	29.6	34.2	3.1	33.6
3 years.....	28.9	33.2	4.0	32.5
4 years.....	28.0	31.7	5.1	32.5
Under 5 years.....	143.0	165.0	15.2	162.1
5-10 years.....	124.0	141.0	31.7	135.2
10-15 years.....	124.1	140.0	37.4	132.2
15-20 years.....	104.8	113.4	59.3	106.7
20-25 years.....	97.2	93.4	110.9	102.2
25-30 years.....	79.8	70.2	129.0	77.7
30-35 years.....	68.5	56.1	125.5	58.4
35-40 years.....	60.0	49.1	121.6	53.0
40-45 years.....	50.3	30.7	109.4	44.4
45-50 years.....	41.0	33.9	82.4	34.6
50-55 years.....	35.5	29.7	67.3	33.1
55-60 years.....	22.7	21.1	37.1	18.6
60-65 years.....	20.2	18.0	33.0	18.7
65-70 years.....	12.6	12.2	17.7	9.2
70-75 years.....	8.0	8.5	12.6	7.5
75-80 years.....	4.6	4.6	5.4	3.4
80-90 years.....	3.4	3.2	3.8	3.5
90-100 years.....	0.4	0.3	0.5	1.0
100 and over.....	0.1	0.02	0.1	0.5

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FIG. 131.—PROPORTION, IN 1000, OF LIVING POPULATION AT CERTAIN GROUPS OF AGES, AT CENSUS OF 1870.

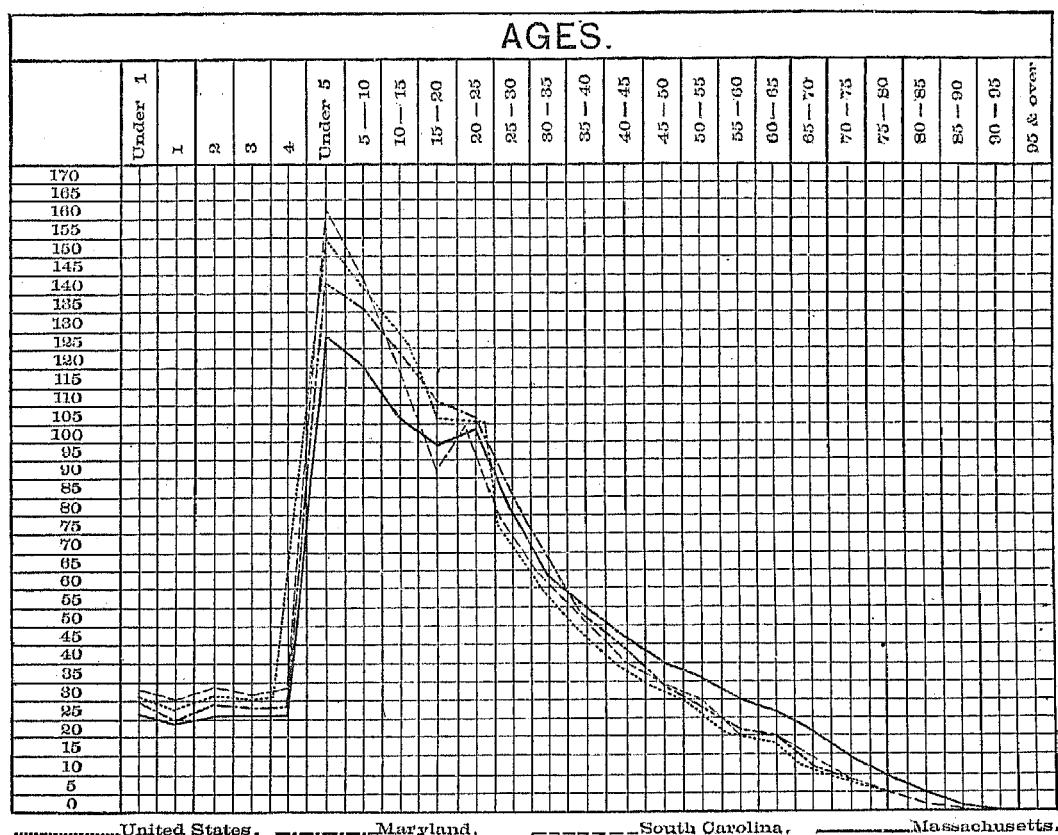


These breaks or distortions, then, are the scars of one of the wounds which the war inflicted. This will be still more evident from an examination of the following table and diagram, showing the loss in native white births due to this cause in the United States, in Massachusetts, in South Carolina, and in Maryland.

TABLE 160.—SHOWING BY GROUPS OF AGES FOR THE NATIVE WHITE POPULATION OF THE UNITED STATES, MASSACHUSETTS, SOUTH CAROLINA, AND MARYLAND, THE PROPORTION IN 1000 AT EACH GROUP OF AGES TO THE TOTAL NATIVE WHITE POPULATION AT CENSUSES OF 1870 AND 1880.

Groups of ages.	CENSUS OF 1870.				CENSUS OF 1880.			
	United States.	Massachusetts.	South Carolina.	Maryland.	United States.	Massachusetts.	South Carolina.	Maryland.
0-5 years.....	165.0	128.1	145.7	157.3	155.7	129.6	163.9	143.0
5-10 years.....	141.6	116.4	122.9	140.0	144.3	121.2	144.3	136.3
10-15 years.....	140.0	122.1	138.8	137.7	126.0	107.8	117.4	124.0
15-20 years.....	113.4	106.7	117.6	117.4	107.8	99.7	92.6	111.3
20-25 years.....	93.4	88.8	106.4	93.2	105.1	103.4	104.8	106.4
25-30 years.....	70.2	71.4	71.8	73.3	77.9	81.2	79.7	79.6
30-35 years.....	56.1	61.0	56.7	57.2	60.1	63.7	64.9	62.0
35-40 years.....	49.0	54.8	49.8	49.1	50.4	55.2	51.2	54.7
40-45 years.....	39.7	48.1	42.5	39.7	40.1	47.5	40.4	43.2
45-50 years.....	33.9	43.1	37.1	35.6	33.4	40.6	34.8	34.4
50-55 years.....	29.7	39.2	33.4	32.1	28.5	36.9	30.8	30.1
55-60 years.....	21.1	30.9	21.7	21.3	21.2	30.0	20.4	21.7
60-65 years.....	18.0	27.9	22.9	18.6	18.1	27.0	20.1	20.2
65-70 years.....	12.2	20.5	13.7	11.9	12.9	21.1	14.4	13.5
70-75 years.....	8.5	15.2	9.6	8.2	8.9	16.0	9.8	9.3
75-80 years.....	4.6	9.1	4.8	4.2	5.2	10.1	5.3	5.1
80-90 years.....	3.2	6.9	3.9	2.9	3.5	7.4	3.8	3.1
90 and over.....	0.3	0.6	0.7	0.3	0.2	0.5	0.3	0.2

FIG. 132.—PROPORTION IN 1000 OF NATIVE WHITES, BY GROUPS OF AGES, AT CENSUS OF 1880, IN THE UNITED STATES, MARYLAND, MASSACHUSETTS, AND SOUTH CAROLINA.



It will be observed that the irregularity in the line indicating the colored population is greater in fig. 130 for 1880 than it is in fig. 131 for 1870.

The shifting of the maximum point in the line of the foreign-born population is explained by the unusually great immigration of Irish and German families containing young children which occurred between 1850 and 1860, forming a wave whose crest is still perceptible.

An examination of the numbers reported as living in each of the first five years of life shows the usual discrepancies, *i. e.*, that the number of those reported as being under 1 year of age, and as being between 1 and 2 years of age, is too small, while the numbers for the ages 2 to 3, 3 to 4, and 4 to 5 are too large. It is evident that the number living between 1 and 2 years old should be greater than the number living between 2 and 3 years old, while the figures given as the result of the enumeration show precisely the reverse, being for the age 1 to 2, 1,256,956, and for the age 2 to 3, 1,427,086.

This discrepancy is discussed in the volume on Vital Statistics for the United States Census of 1870, pp. 517 *et seq.*, and a formula is given by Prof. E. B. Elliott for its correction. If the figures for the first five years of life for the census of 1880 be adjusted by this formula, making no allowance for omissions in the enumeration, the result is as shown in the following table:

TABLE 161.—SHOWING POPULATION UNDER 5 YEARS OF AGE, AND PROPORTION IN 100,000 OF POPULATION, AT THE CENSUS OF 1880, AS OBSERVED AND AS ADJUSTED.

Age.	Observed.	Adjusted.	IN 100,000 OF POPULATION.	
			Observed.	Adjusted.
0-1 year.....	1,447,983	1,514,687	2,887	3,020
1-2 years.....	1,256,956	1,416,517	2,506	2,824
2-3 years.....	1,427,086	1,364,172	2,815	2,720
3-4 years.....	1,381,274	1,325,256	2,754	2,642
4-5 years.....	1,401,217	1,203,884	2,794	2,580
0-5 years.....	6,914,516	6,014,516	13,786	13,786

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The same kind of discrepancy is found in the results of the census of England and Wales in 1881, as will be seen by the following extract from the table of ages:

TABLE 162.—SHOWING POPULATION UNDER 5 YEARS OF AGE IN ENGLAND AND WALES IN 1881.

Ages.	Persons.	Males.	Females.
All ages	25,974,439	12,639,902	13,334,537
0	753,113	376,890	376,223
1 year	684,412	341,434	342,978
2 years	704,409	351,616	352,793
3 years	691,095	344,788	346,307
4 years	687,235	342,929	344,306
Under 5 years	3,520,864	1,757,057	1,763,207

These discrepancies are, however, less in the English census, showing that the ages are obtained more accurately than with us.

The following table shows the percentage of difference for several groups of ages as reported in the United States census of 1880 and in the English census of 1881:

TABLE 163.—SHOWING FOR THE UNITED STATES (1880) AND FOR ENGLAND AND WALES (1881) THE PERCENTAGE OF DISCREPANCIES AT CERTAIN GROUPS OF AGES.

Ages.	PERCENTAGE OF DIFFERENCE.	
	United States.	England and Wales.
0-2 years	13.19	9.12
1-3 years	13.53	2.92
2-4 years	3.21	1.85
3-5 years	1.44	0.65

If we take the difference between the numbers reported as living between the age of 1 and 2 and between the ages 2 and 3, and calculate the percentage which this forms of the first or smaller number, we may use the percentages thus obtained to estimate roughly the accuracy with which the ages have been reported, and by comparison may obtain an approximate idea as to the reliability of the results obtained.

The following table gives the results of such comparisons for the several states and territories, and it will be seen that the discrepancies are greatest among the colored, and among the foreign-born in New Mexico and Arizona and in the Southwest.

TABLE 164.—SHOWING FOR THE UNITED STATES AND FOR STATES AND TERRITORIES THE NUMBER LIVING BETWEEN THE AGES OF 1 AND 2 YEARS AND 2 AND 3 YEARS OF AGE, THE DIFFERENCE IN THE NUMBER, AND THE PERCENTAGE OF DISCREPANCY OF THE EARLIER AGE.

Rank.	State or Territory.	1 year.	2 years.	Difference.	Percentage of discrepancy.	Rank.	State or Territory.	1 year.	2 years.	Difference.	Percentage of discrepancy.
21	The United States	1,256,956	1,427,086	170,130	13.5	6	Mississippi	33,646	41,265	7,619	22.6
10	Alabama	37,845	44,564	6,659	17.5	8	Missouri	54,999	65,253	10,254	18.6
2	Arizona	669	886	217	32.4	25	Montana	717	808	91	12.6
17	Arkansas	25,744	29,416	3,672	14.2	45	Nebraska	13,539	14,299	760	5.6
13	California	16,830	19,623	2,793	16.5	12	Nevada	1,130	1,318	188	16.6
19	Colorado	3,448	3,923	475	13.7	36	New Hampshire	5,690	6,224	534	9.3
16	Connecticut	11,359	13,083	1,724	15.1	24	New Jersey	24,348	27,546	3,198	13.1
41	Dakota	3,727	4,052	315	8.4	1	New Mexico	2,354	3,440	1,086	46.1
15	Delaware	8,248	8,765	517	15.9	14	New York	99,680	115,809	16,129	16.1
5	District of Columbia	3,370	4,153	783	23.2	37	North Carolina	44,468	48,520	4,052	9.1
4	Florida	7,433	9,190	1,757	23.6	26	Ohio	73,554	82,738	9,184	12.4
18	Georgia	48,060	54,800	6,740	14.0	29	Oregon	4,194	4,690	496	11.8
23	Idaho	773	865	92	11.9	38	Pennsylvania	103,122	112,510	9,388	9.1
20	Illinois	75,595	86,011	10,416	13.7	35	Rhode Island	5,402	5,914	512	9.4
44	Indiana	48,075	52,008	3,933	8.1	23	South Carolina	32,038	36,299	4,261	13.2
43	Iowa	42,074	46,227	3,553	8.3	30	Tennessee	46,662	51,802	5,140	11.0
31	Kansas	27,525	30,427	2,902	10.5	7	Texas	48,945	53,871	4,926	20.2
9	Kentucky	44,228	52,158	7,930	17.9	46	Utah	5,009	5,290	281	5.6
3	Louisiana	25,315	32,888	7,573	29.0	34	Vermont	6,379	7,001	622	9.7
33	Maine	11,991	13,206	1,214	10.1	27	Virginia	43,146	48,493	5,347	12.3
11	Maryland	21,748	25,364	3,616	16.6	42	Washington territory	1,999	2,107	108	5.4
32	Massachusetts	33,051	39,424	6,373	10.2	43	West Virginia	13,831	20,422	1,591	8.4
49	Michigan	33,788	42,216	8,428	8.8	22	Wisconsin	32,996	37,434	4,438	13.4
47	Minnesota	22,150	23,352	1,202	5.4	39	Wyoming	452	493	41	9.0

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TABLE 165.—SHOWING FOR THE UNITED STATES AND FOR CERTAIN STATES, WITH DISTINCTION OF COLOR, THE POPULATION BETWEEN 1 AND 2 YEARS AND 2 AND 3 YEARS OF AGE, THE DIFFERENCE IN THE NUMBER, AND THE PERCENTAGE OF DISCREPANCY OF THE EARLIER AGE.

States.	WHITES.				COLORED.			
	1 year.	2 years.	Difference.	Percentage of discrepancy.	1 year.	2 years.	Difference.	Percentage of discrepancy.
The United States	1,059,607	1,194,600	134,993	12.7	197,349	232,486	35,137	17.8
Alabama	20,111	22,985	2,884	14.3	17,734	21,509	3,775	21.2
District of Columbia	2,052	2,705	653	31.8	1,318	1,448	130	9.8
Florida	3,899	4,758	859	22.0	3,534	4,432	898	25.4
Georgia	25,008	27,939	2,931	11.7	23,052	26,861	3,809	16.5
Kentucky	36,855	48,514	6,659	18.0	7,373	8,644	1,271	17.2
Louisiana	11,431	15,593	4,162	36.4	13,884	17,295	3,411	24.5
Maryland	10,358	19,176	2,818	17.2	5,390	6,188	798	14.8
Mississippi	18,892	16,668	2,776	19.9	19,754	24,597	4,843	24.5
Missouri	51,487	60,810	9,323	18.1	3,512	4,449	937	26.5
North Carolina	26,971	28,512	1,541	5.7	17,497	20,008	2,511	14.3
South Carolina	11,698	13,352	1,654	14.1	20,340	22,947	2,607	12.8
Tennessee	34,060	37,877	3,811	11.1	12,596	13,925	1,329	10.5
Texas	36,450	43,695	7,245	19.8	12,495	15,176	2,681	21.4
Virginia	24,106	26,763	2,657	11.0	19,040	21,730	2,690	14.1

TABLE 166.—SHOWING FOR THE UNITED STATES AND FOR CERTAIN STATES, WITH DISTINCTION OF NATIVITY, THE WHITE POPULATION BETWEEN 1 AND 2 YEARS AND 2 AND 3 YEARS OF AGE, THE DIFFERENCE IN THE NUMBER, AND THE PERCENTAGE OF DISCREPANCY OF THE EARLIER AGE.

States.	NATIVE WHITES.				FOREIGN-BORN WHITES.			
	1 year.	2 years.	Difference.	Percentage of discrepancy.	1 year.	2 years.	Difference.	Percentage of discrepancy.
The United States	1,040,521	1,180,955	131,434	12.5	10,080	13,645	3,550	35.2
Connecticut	10,899	12,528	1,629	14.9	219	285	66	30.1
Illinois	73,692	83,705	10,013	13.5	801	1,069	268	24.1
Indiana	47,021	50,776	3,755	7.9	105	157	52	49.5
Iowa	42,200	45,647	3,447	8.1	249	330	81	32.5
Kansas	26,275	28,823	2,548	9.6	182	287	105	57.6
Maine	11,720	12,887	1,167	9.9	236	282	46	19.4
Massachusetts	31,717	34,725	3,008	9.4	1,006	1,270	264	26.2
Michigan	36,915	39,828	2,913	7.8	1,316	1,810	494	37.5
Minnesota	21,440	22,400	951	4.4	598	831	233	38.9
Nebraska	18,217	13,819	602	4.5	254	416	162	63.7
New Jersey	23,147	26,184	3,037	13.1	315	430	115	36.5
New York	97,038	112,515	15,477	15.9	1,889	1,883	404	35.5
Ohio	71,314	80,186	8,872	12.4	425	506	81	19.0
Pennsylvania	100,382	109,434	9,052	9.0	875	1,023	148	16.9
Rhode Island	5,095	5,557	462	9.0	182	231	49	26.9
Wisconsin	32,361	36,614	4,253	13.1	474	643	169	35.6

SECTION XII.—CONCLUSIONS AND RECOMMENDATIONS.

It appears from the data presented in these volumes that the United States, as a whole, during the census year had a comparatively low death rate and high birth rate. The death rate is higher in the colored than in the white population, in the foreign element than in the whites of American parentage, in the cities than in the rural districts.

The most important causes of disease and death were consumption, pneumonia, diphtheria, enteric or typhoid fever, malarial fevers, and those ill-defined forms of disease to which a large part of the great number of deaths of children under 1 year of age are attributed. It is not probable that an unusual mortality from any of these causes, with the exception of diphtheria, prevailed during the census year.

As the country becomes more thickly settled there is an increase of the pollution of soil and water by excremental and other matters, and the possible channels for contagion of specific diseases are multiplying. Although the data

of the census are, for most localities, too imperfect to give specific and definite warning of the evils which threaten many of them, they are sufficient to show that it is time that many towns were improving their water-supply and means of disposal of excreta, and that this country should take steps to secure a complete and systematic registration of deaths upon a uniform plan, and to have the results of such registration published annually at least.

If, however, an attempt is to be made at the next census to collect the statistics of births and deaths for the whole country, as will no doubt be the case, I would respectfully submit the following recommendations as the result of my experience with the data of the present census:

I. The compilation of statistical tables relating to deaths would be greatly facilitated by having the data for each individual death recorded on a separate strip of stout paper or a card. The ease with which these cards can be distributed, in various ways, and the several groups thus made counted is so great, as compared with the process of tallying from large sheets of schedules, that even where such schedules are used for the purpose of collecting the data it will probably be true economy to copy the data from the schedules upon such cards as a preliminary step to such compilation.

Where the data of state or municipal registrations of deaths are to be copied for the use of the census the copies should be made on cards, and in all cities and towns if such cards were distributed to heads of families and householders a few days before the day of taking the census, to be filled out by them, the original data might be collected on them with much more accuracy than by the schedule system.

It would also be quite possible to record many of the data on such cards by punching slots or holes in them in such a way that the several enumerations required could be made by electrical counting or by distributing the cards by machinery, thus insuring accuracy as well as speed.

II. As the dominating factors in vital statistics are age, sex, and race, and as the practical value and interest of such statistics depend upon the possibility of making comparisons between different localities, it follows that in compiling the statistics of the living population the relations of the above-named factors should be given for smaller units of area than have heretofore been employed in our census tabulations.

A state, unless it be one or two of the smallest, is too large for such a unit of area; the state groups of counties used as the unit of area in these volumes are the largest that should be employed, and I believe it is best to give the age and sex statistics by counties. In any event, all cities having 25,000 inhabitants and over should have their populations given with distinctions of age and sex.

I do not mean by this that the number living at each individual year of age is to be given, for this is useless, owing to the accumulations at the even decennials and quinquennials; but it should be given by age groups in periods of 5 years each after the first 5 years.

III. It is very desirable that in the statistics of the living population the principal races should be distinguished, as has been done in the present census for the white and colored. At all events, this should be done for our German and Irish population. I do not mean by this the distinguishing of those born in Ireland or in Germany—this is desirable, but it is totally insufficient for a proper study of race characteristics as connected with births, deaths, etc. What is wanted is the number of living population of Irish or German descent, with distinction of sex and age.

IV. The desirability that the United States should keep constantly in its employ a certain number of men skilled in statistical matters, and especially in census work, and not depend at each census upon almost entirely new men, who are discharged about the time when they have learned by experience to do their work properly, is now so generally recognized that this mere allusion to it is sufficient. I wish only in this connection to call attention to the fact that the collection and compilation of the vital statistics of our census in such a way that they will be practically useful throughout the country involves a much greater amount of labor than is commonly supposed, and that it can not be done cheaply.

I am aware that the recommendations here presented, if carried out, will add to the cost of such statistics, but I am satisfied that the money would be well spent. Nothing pays better than good book-keeping in national affairs, and in no part of a nation's work is good book-keeping more useful than in keeping records of the life and health of its people. The value of the registration records of our states and cities depends largely upon the manner in which the census statistics are compiled and published. It is in this connection that the distinguishing of age groups, not only for the gross population, but for races, for the married and single, and for occupations, is of especial importance, since without this information it is impossible to estimate the influences affecting the population, or to locate the leaks through which the life of the community is being unnecessarily lost. I feel well assured that between this time and the taking of the next census one of the most useful things which could be done by the general government would be to have additional compilations made of the data contained on the population schedules of the Tenth Census, so as to show for each well-defined group of 20,000 or 25,000 persons the age distribution, with distinctions of sex, race, occupations, and marital relations.

The information thus obtained would not only be of much value in itself for the use of the several communities thus scheduled, but it would furnish a foundation upon which, from the results of the next census similarly compiled, might be established some deductions of great practical importance to the nation itself.

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